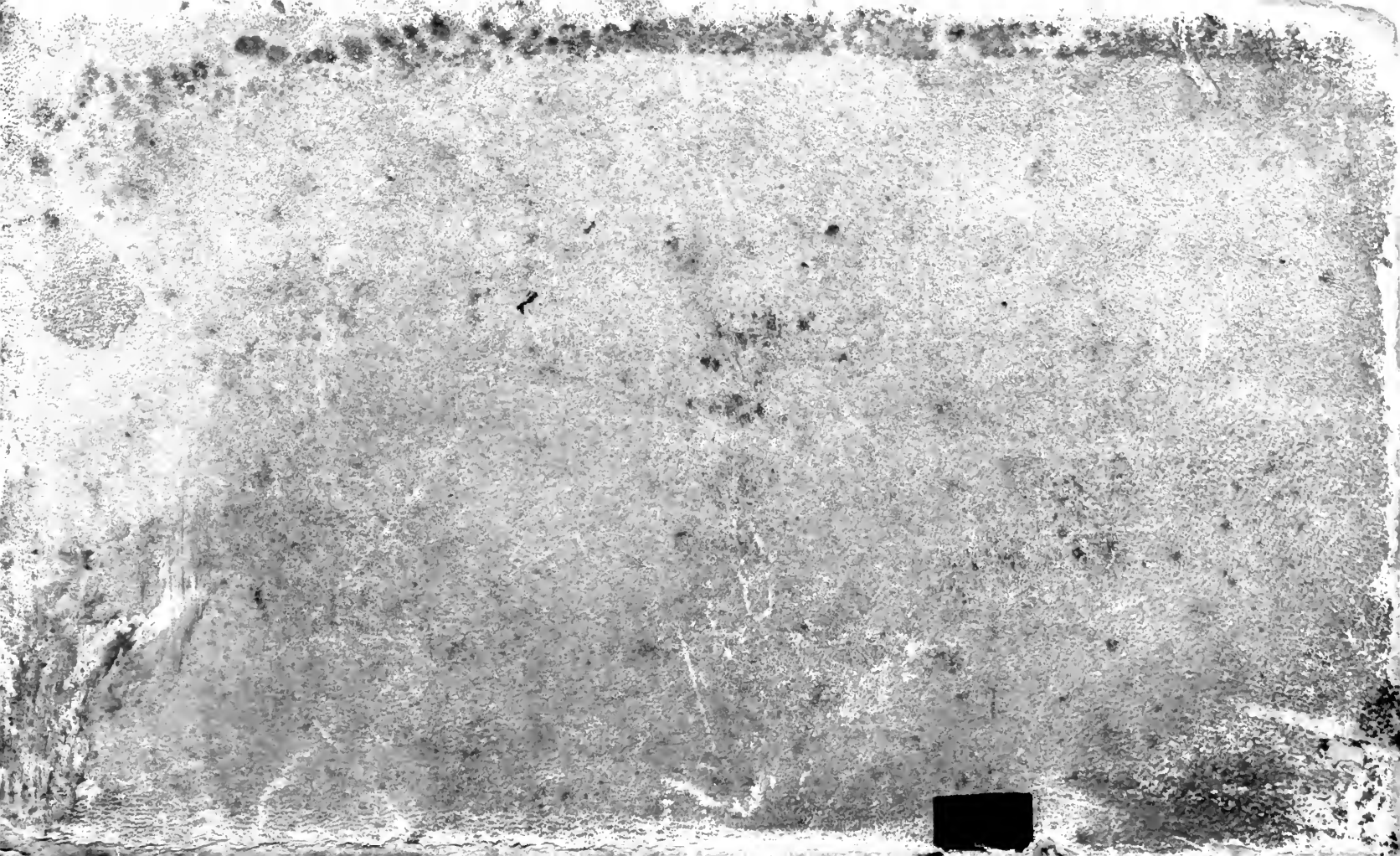

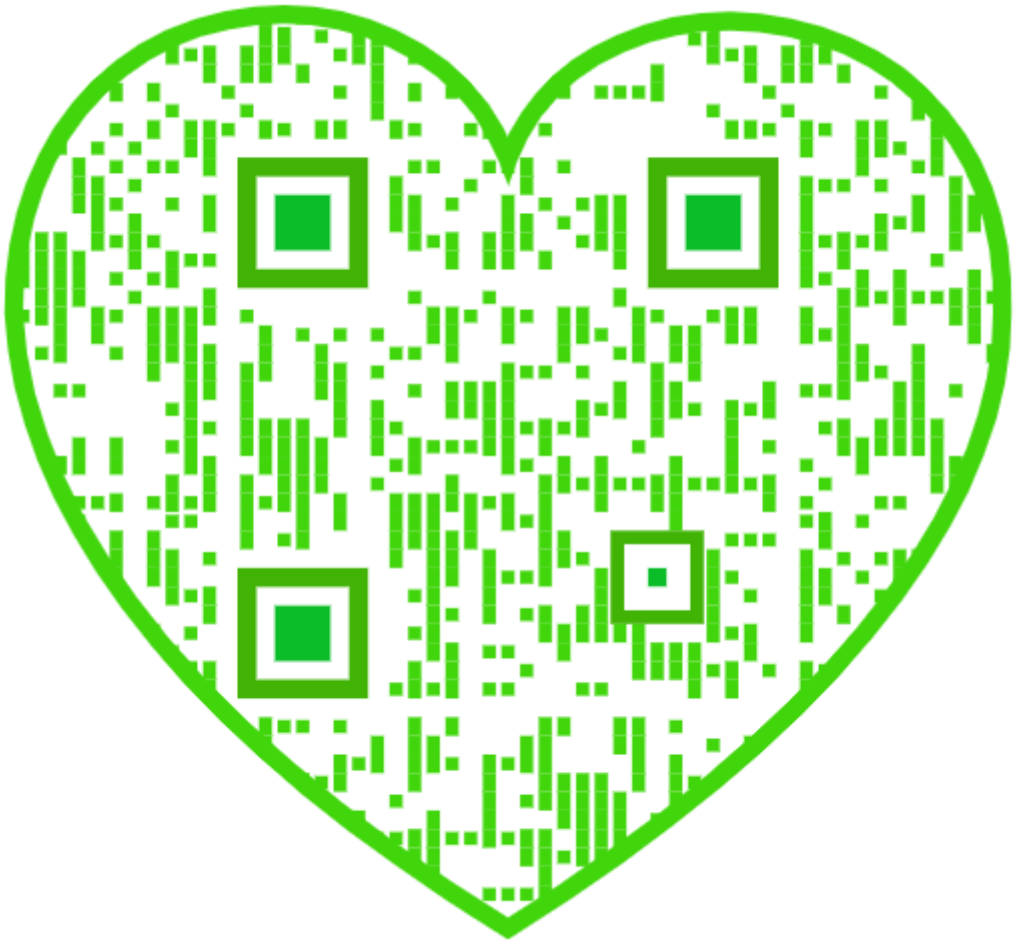

H. G. LOMISON,

Presented by
Rosie A. Wood.

PITTSBURGH ACADEMY OF MEDICINE
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PITTSBURGH, PA.

Louisou

LECTURES

ON THE

MORBID ANATOMY, NATURE,

AND

TREATMENT,

OF

ACUTE AND CHRONIC DISEASES;

BY THE LATE

JOHN ARMSTRONG, M.D.

CONSULTING PHYSICIAN TO THE FEVER INSTITUTION OF LONDON; AUTHOR OF "PRACTICAL ILLUSTRATIONS OF TYPHUS AND SCARLET FEVER," ETC.

EDITED BY JOSEPH RIX,

MEMBER OF THE ROYAL COLLEGE OF SURGEONS IN LONDON.

FIRST AMERICAN EDITION:

With an Account of the Life and Writings of Dr. Armstrong,

BY JOHN BELL, M.D.

LECTURER ON THE INSTITUTES OF MEDICINE AND MEDICAL JURISPRUDENCE, &c., &c.

IN TWO VOLUMES

VOL. I.

PHILADELPHIA:

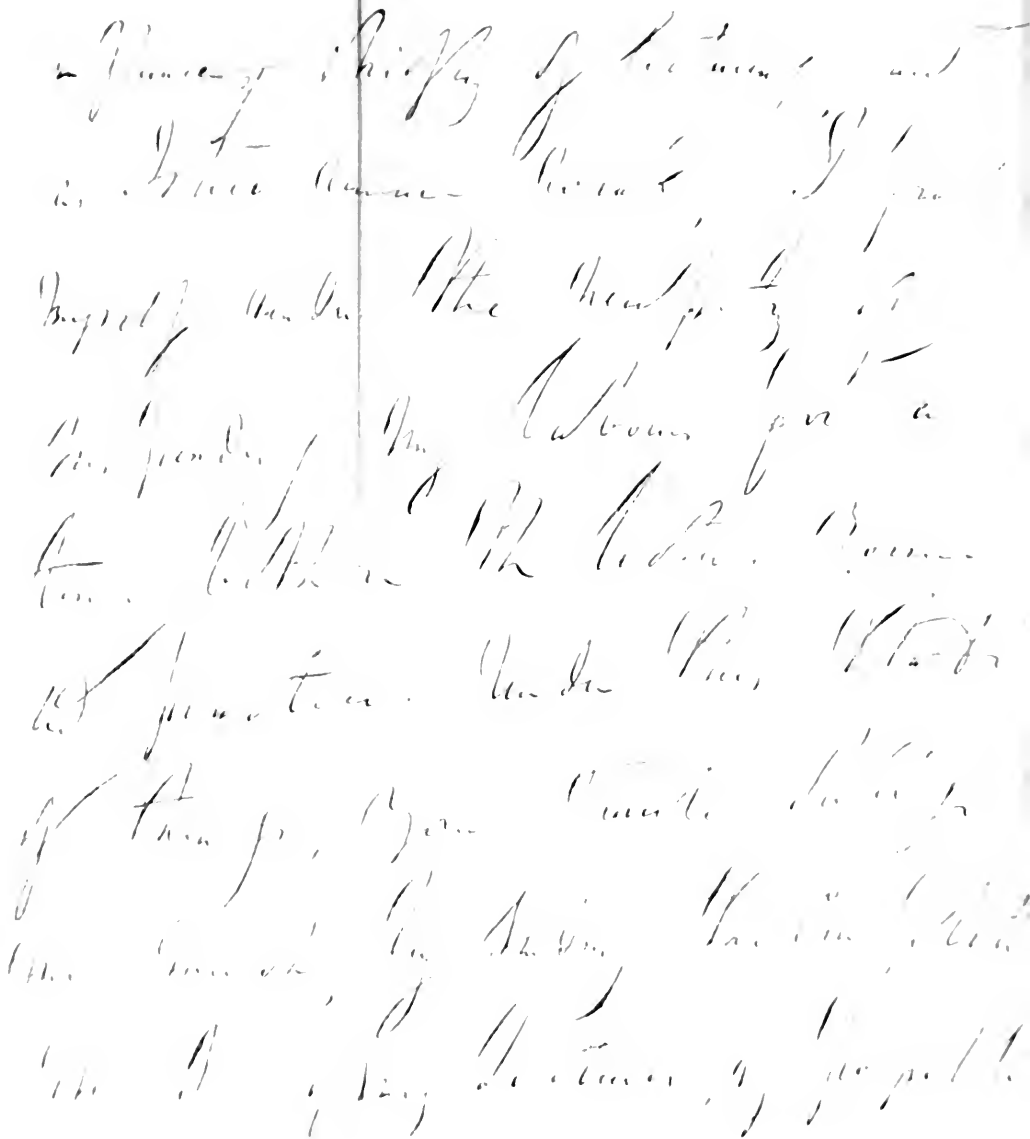
DESILVER, THOMAS & CO.

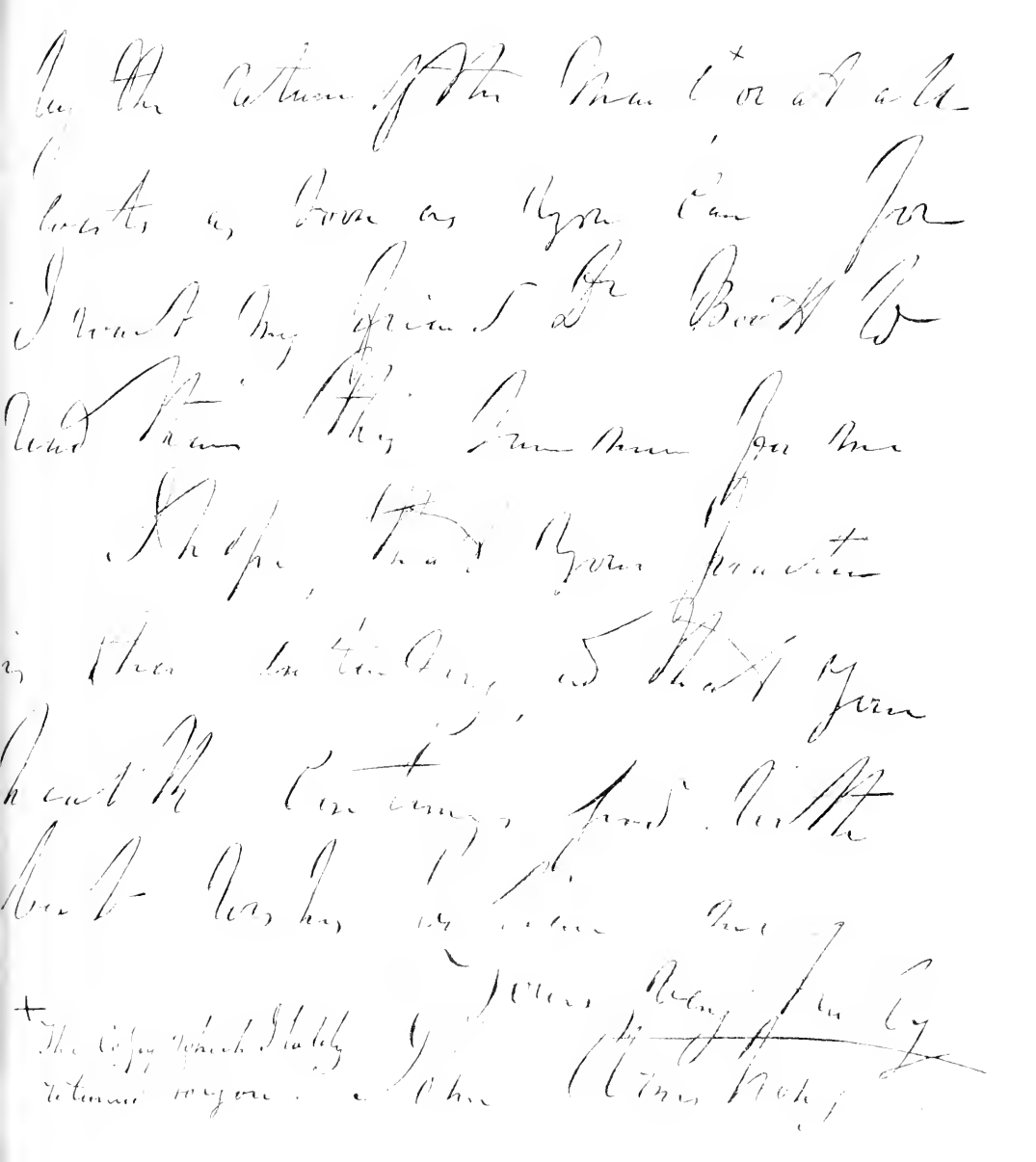
1837.

Russell Square June 8 1829

My dear Sir

I have been excessively jugged this winter by lecturing and practising together. Some months ago I contended an Epidemic Catarrh, which was attended by a slight affection of the Larynx that affection has returned two or three times since, from the





Joseph Rix Esqr
Surgeon
St Neots, Huntingdonshire

INTRODUCTION

TO THE FIRST AMERICAN EDITION.

The best introduction to the American edition of the Lectures on the Practice of Physic by the late Dr. Armstrong, will be an account of the Life and Writings of their distinguished author. His career of usefulness and fame adds another to the long list of examples of the comparative ease with which early difficulties and obstructions, in the want of wealth, friends and patronage, are overcome by the persevering efforts of a vigorous intellect and a determined spirit.

Doctor John Armstrong was born on the 8th of May 1784, at Ayres Quay, in the parish of Bishopwearmouth, in the county of Durham. His parentage was humble. His grandfather was a husbandman, and his father was a manager of glass-works. The latter, although uneducated, is represented to have been a man of superior abilities, and of so much ingenuity and integrity as to have been highly valued by his employers. But it was to the watchful tenderness and considerate affection of his mother that Dr. Armstrong professes himself to have been chiefly indebted, both for encouragement to professional study and for the means of prosecuting it.

The early years of his life were not marked by any precocity of intellect, nor even by a ready acquisition of the common rudiments of learning. When eight years of age, he was unable to read; but this backwardness seemed to be the result of improper teaching rather than of either idleness or inefficiency. At this period he was transferred from the pedagogue, whose labour, if he exerted any, was attended with such barren results, to the care of Mr. Mason, a minister of the United Secession Church of Scotland. With this gentleman he made great

progress, and evinced talents which never after ceased their display ; and it is worthy of mention, as creditable alike to preceptor and scholar, that the latter, after passing eight years at the seminary, seized every hour of leisure during his subsequent stay in Edinburgh as student of medicine, to benefit himself by the lessons of his old teacher.

On leaving school, having shown a predilection for the medical profession, he was placed with a Mr. Watson, surgeon and apothecary at Monkwearmouth ; but soon becoming wearied, perchance disgusted with his situation, he left it contrary to the wishes of his parents, and remained at home for two or three years, leading a desultory if not an idle life. His imagination was, however, active enough, during this interval, in forming visionary schemes for his future course ; one of which was to go to London and to seek employment in some literary occupation. But, although he is said to have shown a taste for poetical composition, and to have written several fugitive pieces which attracted the notice of his companions, we may believe that this was a suggestion of vanity rather than the promptings of conscious power, since neither his verses nor his slender literary attainments would have qualified him for becoming a successful adventurer in this line. Be this as it may, this period of comparative idleness in the life of young Armstrong, during which he wandered about Sunderland, wrote fugitive pieces of poetry, and even meditated a tragedy on the story of Boethius, was, if not the most useful, certainly far from being clouded by dullness or unhappiness.

The change in the first arrangements, caused by his early waywardness, did not lead to an abandonment of the original design ; that he should prepare himself for the practice of the medical profession. Accordingly, at the age of nineteen or twenty, he left home to enter as a medical student the University of Edinburgh, in which city he resided three years. He was enabled to take this step chiefly by the economy and management of his excellent mother, of whom he always spoke in after life with an evidence of the heartfelt sense of the advantages which her self-denial had conferred upon him. He often assured his friend and biographer Doctor Boott, that he owed every thing to her. Still, his supplies were so limited as to compel him to practice a rigid economy, and to confine his studies to those essentially requisite for his ob-

taining a degree. He gained this honour in June 1807, having written a thesis "*De Causis Morborum Hydropicorum, Rationeque iis Medendi,*" which was dedicated to John Anderson, Esq. He had previously, on the 5th of May, passed an examination at the Royal College of Surgeons in Edinburgh, and is consequently termed "*Chirurgus*" in the official entry on the University books. His health at this time was so deteriorated as to cause much solicitude to his friends; and Dr. Boott intimates his belief that even at this early period his ailments indicated a tendency to consumption. It is, however, no uncommon thing for a studious youth, who debars himself from exercise and trims the midnight lamp, to pay this kind of tax for collegiate honours; and he may be thankful if a return to his kindred and friends be followed by restoration to health and a renewal of his buoyant spirits.

Doctor Armstrong was, we see, but twenty-three years of age when he took his degree; after three years study and little previous medical education. At the time of his entering the University of Edinburgh, the chief ornament of that celebrated school of medicine was Doctor Gregory, the author of the classical "*Conspectus Medicinæ Theoreticæ,*" a man, says Dr. Boott, perhaps more distinguished for elegance of mind than for any originality as a writer. Dr. Armstrong, although admiring his benevolence and urbanity, considered his mode of instruction to be too scholastic, and too much devoted to the views of his illustrious predecessor, Dr. Cullen. A critic on the Life and Works of Dr. Armstrong, in the British and Foreign Medical Review, whilst bearing his own testimony to the wisdom, manliness, and learning without pedantry, and the scorn and contempt for quackery, which distinguished Dr. Gregory, expresses his surprise at Dr. Armstrong's preference for Dr. Hamilton, of purgative fame. He concedes to this latter the merit of showing, that purgative medicines might be safely and advantageously used in various forms of fever and several other diseases, in which their administration had been previously considered hurtful or dangerous; and admits that his precepts concerning this class of medicines are eminently judicious. But he avers that Dr. Hamilton's applications of the purgative doctrine, in his hospital practice, was indiscriminate; and attended in many cases, especially of fever, dysentery and inflammatory

diarrhœa, with such palpable fatality, as none but a practitioner devoted to a single idea could possibly have overlooked. As a *teacher* of practice, in the course of his hospital duty, a regard for truth compels us to say, continues the critic, that he was little calculated to assist the learner: he was supercilious, never addressed a word of explanation to the students who followed him up and down stairs for months or years; and did all in his power, by low tones and a mystic deportment, to prevent their knowing what he deemed to be the actual state of the patient, or what he prescribed. Yet, to some students, his compendious plan of medicine recommended itself very strongly; its simplicity was enchanting; it required no reflection, and to this day, in every province of England, the injudicious and habitual employment of drastic medicaments duly proclaims the durability of his narrow doctrine and erroneous example. We ought, perhaps, to regard as a branch or a continuation of Dr. Hamilton's practice, the administration, by empirics, in such large and destructive doses of cathartic pills, which have been named to catch popular favour, or after their venders.

Immediately after having taken his degree, Dr. Armstrong settled in Bishopwearmouth, a parish adjoining Sunderland. Among his first patients was the father of an intimate friend of his own in Edinburgh. This gentleman had laboured for nearly ten years under what was considered an anomalous attack of diarrhœa, which soon yielded, however, to a mild course of laxatives; and thus evinced the correctness of the young physician's opinion of the disease being the result of overloaded bowels, and an effort of nature to throw off the offending cause. The case served to illustrate not only Dr. Hamilton's practice, but, also, by a casual coincidence, to show the man himself in an advantageous point of view. This gentleman happened to pass through Sunderland in a day or two after Dr. Armstrong had been consulted; and when he was called upon by his former pupil, and earnestly solicited to see the patient, he firmly resisted the proposal, and gave as his reason that the practice recommended was undoubtedly correct, and that the issue of it would be fortunate. "It will gain you credit," he said, "but if I am consulted, the recovery will be attributed to my counsel and longer experience, when all the merit in reality will be due to your own sagacity."

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He added; "take the advice of an old man, and avoid consultations in all cases where you feel satisfied that you understand the nature of a malady." The advice we believe to be sound and useful, both for the interest of the patient and of his medical attendant. The latter, accustomed to rely on himself, will summon his energies to the task before him, and pass in review, in his own mind, the best and most efficient measures. Whereas a habit of frequent consultation is apt to induce timidity and self-mistrust by the very fact of looking to another for assistance. The responsibility is indeed divided; and very much on this account, will there be, we fear, diminished watchfulness of symptoms and energetic treatment for their removal.

The successful issue of the case which has given origin to the above remarks, was favourable to Dr. Armstrong's professional advancement. His grateful patient was in the habit of riding about town (Sunderland) on a pony, and sounding, at all times, the praises of his physician. The recommendations of this gentleman alone established him at once in a practice of about 200*l.* a year. In his twenty-eighth year, and when he had been only four years in practice, he was enabled to remove to a large house in Bishopwearmouth, which town he had left some time before for Sunderland, and to keep his carriage. In this same year, 1811, he was elected physician to the Sunderland Dispensary; and he married the daughter of Charles Spearman, Esq. of Thornley, near Durham. So much more fortunate was Dr. Armstrong in his certain prospect of obtaining a competency than the celebrated Dr. Baillie, who did not enjoy it until after he was forty years of age.

The activity of Dr. Armstrong's mind prompted him, although little loaded with medical learning, to become an author. He was a diligent observer of disease, and his observations appeared to himself to be both original and valuable. His papers in the ninth volume of the Edinburgh Medical and Surgical Journal on *Brain Fever from Intoxication*, and on *Diseased Cervical Vertebræ*, are characteristic of his powers of minute description, and of his love of detail; peculiarities which were equally observable in his conversation. They also exhibit him in the light of a careful and reflecting practitioner. His language, even in these his first compositions, is fluent and correct; but there is,

as usually happens with unlettered men, a tinge of affectation observable in his various and not always very important references, including one to Paley's Natural Theology, to warrant the somewhat vague and superfluous announcement, " that the great energies of nature are known to us only by their effects."*

About the end of the year in which these papers appeared, (1813) Dr. Armstrong published his work on *Puerperal Fever*, for which he always retained an author's partiality—probably from the agreeable associations connected with it. This work first brought his name into public notice, and procured for him the approbation of his professional brethren. Of its distinctive merits we shall speak hereafter, when passing in review the professional character and writings of its author.

In the following year, he communicated a paper to the Edinburgh Journal on a case of " *Cynanche Laryngea successfully treated*" in a girl ten years of age; and also one containing " *Additional facts and observations relative to the Puerperal Fever,*" in which he notices some communications made to him on the subject in consequence of the publication of his work.

In 1815, continues Dr. Boott, the last contribution which he made to that valuable Journal appeared in an essay containing " Brief hints relative to the improvement of the pathology and treatment of those chronic diseases usually termed nervous," which he thinks are generally secondary affections, inseparably connected with disordered circulation; and that if fixed principles as to their treatment are ever to be obtained, it must be accomplished by extending our views beyond the nervous system to other textures; for that it will be found on examination they depend upon venous congestion or inflammation, and their consequences, or upon some disorder of function or structure in the viscera of the three great cavities; an idea which has since been fully verified in many cases by the researches of late pathologists. Dr. Boott might have added, that the merit of originality in these views, especially of the dependence of nervous disorder upon derangement of the circulation, belongs of right to Dr. Parry, who promulgated this patho-

* British and Foreign Medical Review, January 1836, p. 38–9.

logy in the Memoirs of the Medical Society of London, some thirty years before Dr. Armstrong's publication.

The favourable reception which his treatise on Puerperal Fever met with, encouraged him to extend his views farther; and in 1816 his celebrated work on Typhus appeared,—which "at once raised him to a very high eminence in his profession. It passed through three large editions in three years, and was received almost with acclamation by the medical public, not only in this country, but throughout America, where it obtained for him, from some of the most eminent professional men, the name of 'the modern Sydenham.'

"It was characterised as a work abounding in judicious reflections, refined distinctions, and practical illustrations of the highest importance."

Dr. Armstrong's success, as an author, now impelled him to try a more extended field of practice, and, accordingly, he determined to remove to London. In October 1817, he resigned his situation as physician to the Sunderland Dispensary; and in February 1818, after placing his wife and his two children in lodgings at Durham, he repaired to London, with no other recommendation than that which his works and reputation afforded him. The expenses attending a physician's life had not enabled him to save means sufficient for the support of his family in so expensive a place as the metropolis, before his name should have become known there. His first feelings in his new position are thus described by Dr. Boott:

"He took lodgings at No. 38, Great James street, Bedford row, where he resided several months alone. This was the most trying period of his life. All those domestic sympathies upon which he so much depended for happiness were far removed from him, and he felt as it were alone in the world, anxious about his present and uncertain of his future fortunes. He never, to the close of his life, courted general society, and had few inducements to mix in public amusements; for his tastes centered in his professional pursuits, and his enjoyments in the bosom of his family, and in the familiar society of a few personal friends. His sensibilities were acute, and his mind simple and discerning in its instincts and desires. He had left a society to which he was

attached by the ties of gratitude; and in the oppressive solitude of his present situation he keenly felt the loss of his early friends, and became fully sensible of the hazard to which he had exposed the interests of his family. He has often told me that the loneliness of his situation at times overpowered him; and that so oppressive was the busy scene around him, in which he stood a stranger, uncared for and unknown, that he sometimes found relief in tears, and tried to drown the consciousness of sorrow, by seeking sleep in his darkened chamber at noon."

The larger the city, and the greater the crowd the bustle and the hum of business, the more complete is the depression of spirits of a young and unfriended stranger about to take up his residence in it. More especially must this be the case in London, where there is nothing to invite abroad; no scene of public sociability, as one might term it, in which the pleasure of the many is reflected on the solitary observer. All he sees, whether of men in high station or rolling in wealth,—whether of public institutions or personal possessions,—is repellent. There is something, moreover, in the gloom of a London sky, and the dense and murky vapours of London air, which is sedative and narcotic—stupefying to even the elastic spirits of boyhood. At least such are our own reminiscences. Allowances must be made, also, for the natural susceptibilities of Dr. Armstrong; and we may add another consideration,—his want of a decided fondness for, and knowledge of, general literature. If there be a balm for the depressed spirits of the poor and solitary professional man, hoping for, but yet doubtful of, employment and income, and yet conscious of his having intellectual energy for the struggle and of the goodness of the cause in which he is embarked, it will be found in a communion with the master spirits of by-gone ages. Nor is a knowledge of this nature incompatible with zealous professional observation and skillful practice.

Within a year from the time of Dr. Armstrong's settling in London, his prospects of practice were very much improved. He published his opinions on various practical subjects;—on Measles, Scarlet Fever, Consumption, Chronic Diseases, Sulphureous Waters, External and Internal Inflammation, Insanity, &c.—and his plain and unpretending

manners secured him many friends. His fondness for his profession led him in his conversation, as in his writings, to dwell minutely upon common points of practice, on which, without offending the prejudices or alarming the pride of his hearers, he became a great authority; and he possessed what we believe is always found to be a substantial recommendation to success in medicine, an almost exclusive attachment to it. There was this peculiarity about his mode of expressing himself, that his earnest dwelling even upon matters taught in every elementary book, made the hearer believe the ideas were as original as he sincerely appeared to consider them.

The volume on the subjects just mentioned had less novelty than that on Typhus, but it fully maintained, Dr. Boott thinks, the reputation which he had previously acquired. This author then quotes the opinion of a writer in the Edinburgh Journal, as follows: "We are at no loss to discover in it traces of the same master-hand, of the same talents for observation, the same fidelity and boldness in the delineation of disease,—the same ingenuous modesty in the reprobation of old, or the exposition of new doctrines and practices." On the other hand, it has been alleged, that the very preface to this volume shows that the sedateness of mind maintained throughout his treatise on Fever, had been disturbed by the praise he had received. But we must continue the thread of our narrative of the professional advance of Dr. Armstrong, and, at the same time, notice a check from the London College of Physicians, which, by wearing the appearance of persecution, eventually contributed to his triumph.

Within the sphere of our own acquaintance or reading, we, says the author of the review in the London Journal, so often quoted, can find no example of a rise so rapid as that of Dr. Armstrong, from comparative obscurity to a large practice. He was already a distinguished physician when he presented himself, as all graduates of other universities than Oxford and Cambridge are under the necessity of doing, before they attempt to practice in London, to the College of Physicians for examination and license to prescribe. Much to his own vexation, and not a little to the surprise of his admirers, he was rejected by

the College. Dr. Boott thus speaks of this remarkable incident in the life of his friend:—

"He had, perhaps, undervalued the estimate which the Board of Examiners place on classical diction, and the alphabet of the profession; for this distinguished physician, who had received a diploma from the most efficient and most celebrated school of medicine in Great Britain, who had been in successful practice eleven years, and was the author of three of the most popular works which the medical press of this country had ever put forth, the fame of which was still sounding in the periodical journals of the day,—was rejected as incompetent to continue in the practice of his profession in London, and as undeserving the honour of having his name enrolled among the members of the College.

"This public stigma, of the justice and motives of which I leave others to judge, was not without its natural and perhaps salutary effects upon the sensitive mind of Dr. Armstrong. His nature was mild, but too dignified to submit to insult and unmerited wrong, which threatened injury to his own reputation, and ruin to the welfare of his family. He did not admit the necessity of any particular attention to his profession to qualify him for passing the usual examination the next year, as he was aware that the first rejection was generally the only one. But he felt roused to the due assertion of his own claims to respect; and from the impressions which this act of wanton power made upon him are to be ascribed much of that indignant tone which afterwards sounded in his lectures on scholastic institutions."

That his professional brethren, with a full knowledge of his valuable contributions to medical science, and of his powers of careful observation and successful practice, should not attach any importance to the proceedings of the college, is quite natural. But the strongest proof of its conduct in this measure being unpopular, and in no way impeding Dr. Armstrong's advancement, was that furnished by the conduct of the trustees of the Fever Hospital of St. Pancras. These gentlemen not only elected him physician, but suspended the by-law which made it necessary for a person holding such office to be a member of the college.

We learn from Dr. Boott, that the introduction of Dr. Armstrong into general practice was through the instrumentality of his professional brethren; to a few members of whom or to their families he acted the part of medical adviser. This confidence became more and more general, and it has been said, and it is believed truly, that during the eleven years he resided in London, he was called upon to attend more medical men than any other member of the profession. If to this circumstance we add another, that those families who had had once an opportunity of feeling the effects of the gentleness and delicacy of his manner could think of no other adviser, and we have the two causes of his success in London. "He had the faculty of communicating his ideas to others in the most easy and intelligible manner, and, from the fertile resources of his own mind, of throwing light upon the most obscure and involved cases. Those difficulties which embarrassed common minds seemed at once charmed away by the magic influence of his own; and his opinions were delivered with so much candour and perspicuity, that while others bowed before the superiority of his intelligence, they were instinctively impelled to place the fullest confidence in his skill and integrity, and to feel an irresistible affection for his character as the man, blending with their admiration of his talents as the physician. His manners were simple almost to a fault, and were at first forbidding, from the absence of every thing like an attempt at effect; but no sooner did he enter upon the consideration of a case, than it was apparent he was completely absorbed by it. His seeming reserve at once gave way to a visible feeling of deep and tender interest in the welfare of his patient, who felt satisfied that he was in the hands of an amiable and a sagacious man, to whom he might confidently intrust himself."

One of the first instances of his introduction to practice, soon after he settled in London, was in the family of the late Mr. C. T. Haden, himself a distinguished practitioner. The patient was Mrs. Haden, who had been seized with puerperal fever. The husband from the first despaired of her recovery; but having heard that Dr. Armstrong had settled in London, he instantly determined to go in search of him: and in a state of the most distressing anxiety he hurried from home,

and inquired at every druggist's shop that he passed in Piccadilly, but in vain. At last he fortunately met with a gentleman who had resided in the north of England, and who directed him to the residence of the object of his search. "Dr. Armstrong instantly ordered a large depletion, which was repeated a second and a third time, and within eight or ten hours from the time of Mr. Haden's leaving home in a state of despair at the condition of his wife, he saw her, in his own opinion, out of danger; and her rapid recovery impressed him with feelings of profound gratitude towards the stranger whose assistance he had so urgently sought."

A case of the same kind occurred in the family of the late Mr. Hornidge, surgeon, of Great Ormond Street. The patient was sister-in-law to this gentleman, who was so impressed with the decision and success of Dr. Armstrong's practice that he drew up an account of the case for publication.

In the years 1820 and 1821, Dr. Boott attended his practice in the Fever Hospital, and he bears strong, and we doubt not just, testimony to Dr. Armstrong's conscientious discharge of his duty in that admirable establishment; in fact, to his humanity, urbanity, and punctuality. No situation could be more interesting to a physician whose attention had already been so much occupied with fever, and the daily experience of such an institution would at once show him the limits of his former experience, and the many yet undescribed varieties of continued fever.

In 1821, Dr. Armstrong first became a lecturer in the school established by the late distinguished Mr. Grainger; and his fluency, animation, and the general kindness of his manners, soon ensured him a high degree of popularity among the students. Of his possession of the higher qualities of a lecturer his biographer speaks in language approaching to enthusiasm. His first was the only one he ever gave from an entire manuscript; for his habit was to lecture from notes. Dr. Boott says: "I have in my possession all his note books, which are generally wholly unintelligible to me, as they consist of words without any immediate connexion. Many of his lectures are comprised in a few pages, written in a neat hand, the lines beginning with a capital letter, and placed wide apart, for the facility of catching the

thread of his discourse; and the names of persons frequently occur, whose cases he detailed in illustration of his views and treatment of disease." The biographer refers to a valuable manuscript copy taken in the lecture room by a very intelligent pupil, Mr. Rix of St. Neotts, and adds, what must apply to all oral instruction delivered by an author himself: "we have lost much of that elegant style, and that copious reference to particular facts, which made them so attractive and instructive to his hearers." Of the estimation in which Dr. Armstrong himself held the copy taken by Mr. Rix, proof is furnished in the lithographed copy of his letter addressed to this gentleman, and inserted in the preface to the first volume of this edition of his Lectures.

Though it be somewhat long, we shall insert here Dr. Boott's account of the impression produced by him when lecturing, and of his qualifications for the task. "As a lecturer Dr. Armstrong was preëminently successful: he always spoke from the fulness of a mind rich in a store of facts, which he had collected from his sagacious observations of disease. He was not so deeply read in the learning of his profession as many teachers have been, and seldom quoted the opinions of others. He had attentively perused the modern medical literature of his country; but did not often allude to it, except in the case of the illustrious Sydenham, whom he considered the first of physicians, equal to Hippocrates in powers of observation, and superior to him in practical skill. His mind had originally imbibed its impressions of disease from others, and traces of these engrafted opinions are visible in his earlier publications. But when he entered on the practice of his profession, he soon saw the discrepancy between scholastic axioms and the phenomena of nature; and endowed with admirable powers of discernment he soon abandoned the beaten track; and with that instinctive confidence which genius bestows upon its possessors, he opened to himself a new path to usefulness and distinction, which he triumphantly followed to the close of his short and brilliant career.

"One of the most striking characteristics of his mind was a power of generalization, which enabled him to grasp at once a complicated subject, and to view it from an intellectual elevation unattainable by men of ordinary powers. He had at the same time an extreme simpli-

city, and as it were modesty of judgment, combined with a keenness of mental vision, which made him sensible of things too familiar to arrest the observation of others; so that while they were often lost in the misty atmosphere of their minds, which obscured some points and distorted others, his calm and clear intellect in the equable light it diffused around, perceived and noted all existing phenomena, without undervaluing what was minute, or exaggerating what might be of more prominent proportions.

"These were the sources of his superior sagacity, and they eminently characterise the man of genius."

Such praise, says the reviewer, from whom we freely borrow on this occasion, without however fully coinciding with him in all his views of the subject of this memoir, convinces us more strongly of Dr. Boott's admiration for Dr. Armstrong than of Dr. Armstrong's possessing exactly the qualities desirable in a teacher of practical medicine. It impresses us with a belief of the irrelevancy of the topics, and the unrestrained declamation which we have often been told were occasionally touched upon and indulged in. Testimony is borne out by the same authority to the value of the Lectures which we introduce now for the first time, in book form, to the notice of American medical readers. We should be doing injustice to the work were we not to transcribe the language of the reviewer on the subject.

"It is not that we are insensible to the peculiar merits of Dr. Armstrong's Lectures, as exemplified in the spirited transcript of them edited by Mr. Rix, and the fidelity of which is unquestionable. We admire, in almost every page, the precise and cautious practical directions; the striking allusions to instructive cases; the urgent recommendations of the pupils to be careful, to be diligent in observation, to avoid hurry and heedlessness, to be attentive to the poor. Nothing can be more excellent than the rules laid down for all the parts of the delicate management of fever patients; nothing more judicious than the general instructions arising out of the lecturer's perfect knowledge of mankind, and his perfect descrimination of the relative characteristics of the upper, the middle, and the poorer classes. His prudent admonitions respecting the employment of some of the heroic remedies, as mercury,

arsenic, and colchicum, attest his powers of observation and his practical merits. We do not quarrel even with a few eccentricities, such as a depreciation of what are called saline medicines, which are so universally refreshing to patients in febrile disorders ; and an unaccountable prejudice against the term *constitutional*, to which Dr. Armstrong was unable or unwilling to attach any definite meaning. But there is still much, very much, in the lectures, of which we cannot but most strongly disapprove. There is a frequent affectation of simplicity, or of what Dr. Boott has indulgently called dressing medicine in artless guise ; of which the rejection of the term pericardium, and the substitution of the inelegance of ' bag of the heart' may be taken as an example. This was done, no doubt, to avoid a word derived from two Greek words, taught 'in schools and colleges.' Yet to avoid this learning, some inaccuracy was incurred."

Some strictures follow on the author's depreciation of Cullen. Though, in justice to Dr. Armstrong, we ought to mention, that his criticisms are more specially directed against the nosological system of the Scotch professor:—nor do we deem it necessary, at this day, to attempt to defend the errors in pathology and practice of this celebrated man.

Besides his Lectures on the Practice of Physic, Dr. Armstrong delivered a course of lectures on the Materia Medica. He had not paid any particular attention to the practical details of pharmacy, and his lectures were very general on the subject. He fitted up an extensive cabinet of drugs, to which he added the best works on materia medica and pharmaceutical chemistry, and he directed his pupils to make themselves familiar with the physical characters and general properties of medicines, by studying them with their manuals in their hands. The lectures he delivered were, chiefly, upon the practical application and effects of remedies in disease ; and the same powers of minute observavation, which were so conspicuous in his course on physic, were equally displayed on this interesting and difficult subject. He had paid particular attention to it in his practice, and was always judicious and discriminating in the means he employed. He abandoned this course of lectures in 1825, though he continued the more valuable part of it in the detail of his lectures on the practice of physic, devoting a portion

of that course to the explanation of the uses and effects of some of the more important articles of the materia medica, in the treatment of acute diseases.

In four years from the commencement of his practice in London, Dr. Armstrong had succeeded in obtaining a great share of business. "I had left him," says Dr. Boott, "in 1821, struggling into notice, but still in some degree doubtful of the propriety of the step he had taken in removing to London; and, on my return from Paris in the summer of 1825, I found him in the full enjoyment of fame and prosperity."

"An anecdote," continues his biographer, "connected with the period of his greatest difficulties, in the year 1820, when his funds were nearly exhausted, is too honourable to himself and to the late Mrs. Oliphant, of Gask, in Scotland, to be omitted.

"He had naturally been led to take an unfavourable view of his prospects, from the prejudices excited against him by the conduct of the College of Physicians, and from an experience of the unavoidable expense attending a physician's opening career in London; which appeared the more formidable to him from the injury that he imagined had been done to his reputation. His mind was at one time so much a prey to anxiety, that he entertained serious thoughts of removing from town. This idea was communicated to Mrs. Oliphant, in whose family he had practised for several years, and to whom his worth was fully known. She immediately remonstrated against it. With a delicacy which added to the extent of her kindness, she advised him to set up his carriage, and insisted that he should draw upon her banker for any sums he might require. till his income should prove equal to his wants. This noble act of devotion to a pure and exalted friendship, was honoured as it deserved to be: for Dr. Armstrong availed himself of the liberal offer, and the fruits of this beautiful instance of mutual confidence were to remove at once the apprehensions he laboured under, and to fortify his mind with a confiding hope of ultimate success. He never spoke of this disinterested act of friendship without emotion, and he always attributed his subsequent prosperity to it, as it reconciled him to the difficulties he had to encounter, and enabled him to apply his mind, unfettered by anxiety, to the discharge of the responsible

duties of his situation as physician to the Fever Hospital. Mrs. Oliphant lived to see and to feel the happy effects of her benevolence; and, when sorrow visited her, as it successively did in the untimely fate of several of her children, she found the truest sympathy in the gratitude and devotion of the object of her patronage."

In May, 1822, Dr. Armstrong communicated "Some Observations on the Origin, Nature, and Prevention of Typhus Fever" to the Medical Intelligencer, then conducted by his friend Mr. Haden; and at the request of the same gentleman, he furnished, in July, 1823, "Some Observations on the utility of Opium in certain Inflammatory Disorders" to the Transactions of the Associated Apothecaries of England and Wales. These were the only productions of his pen since his work on Scarlet Fever, which appeared in 1818, with the exception of the annual reports to the Fever Hospital, which he wrote alternately with his colleague, Dr. Cleverly.

In 1826 he formed a new school of medicine in Little Dean Street, Soho, in conjunction with the late Mr. Bennett and Dr. Boott; he still continuing his lectures in the Borough. But this double occupation was abandoned in 1827, and his labours were then wholly devoted to his increasing practice, and to lecturing in his original Borough school. This singular undertaking to lecture twice a day was far from prudent, especially as he had not advanced thus far in his ardent and laborious career without some warnings that the machine was going too fast. Three years previously, after an attack of dysentery, he remained for some time (he says in one of his letters to Dr. Boott), affected with a daily dread of sudden death, and had one or two severe attacks of giddiness. He speaks, in his lectures, of habitual evening fever supervening on slight excitements.

His situation at this time, reference being had simply to his elevated professional standing and employment, was such as to excite the envy of the youthful aspirant after fame and emolument. But closer observation would soon have shown that he was gradually sinking under labours which he himself had either solicited to perform, or had cheerfully allowed to be imposed on him. Such is, unhappily, the career of too many great and good men in our profession. They cannot well

either relax from or intermit their toil ; and occupation, which was at first eagerly sought for, from motives of laudable ambition, and as a means of support, is continued from mixed feelings of gratitude and affection to the community in which they acquired reputation, and from which they won confidence, and of vanity to retain their vantage ground. Habit exerts also a full influence ; and although they complain of their unceasing labours, they would probably complain still more, were these to be brought to a close by a voluntary abandonment of professional engagements.

The life of Dr. Armstrong, according to his biographer, was one of incessant occupation ; and the only relief from its labours and anxieties, that he either sought or was susceptible of, was in the bosom of his family. The evening found him worn and exhausted by the exertions of the day, incapable of appreciating any enjoyment but that which his social circle imparted, and wholly incapacitated for the labours of the closet. He had long formed a plan for revising his works, and putting them into a more condensed and improved form, but he never found leisure for the task. For some years he had been collecting materials for a work on chronic diseases ; and in 1828 he published the first fasciculus of "The Morbid Anatomy of the Stomach, Bowels, and Liver ; illustrated by a series of plates, with explanatory letter press, and a summary of the symptoms of the acute and chronic affections of the above-named organs." He intended that this work should have been followed by a volume descriptive of the nature and treatment of chronic affections ; but he did not live to put his design in operation. His Morbid Anatomy was only extended to the fourth number.

It was not until December, 1828, that he manifested any thing like the confirmed effects of disease, or that he complained of weakness, and thought a temporary intermission of his labours as a lecturer necessary. He had for some time previously been affected with a cough, which he attributed to the effects of public speaking, and which his family thought had arisen from his imprudence in leaving off flannel, and riding in all weathers with his carriage windows down, exposed to draughts of air. This needless exposure of his own person was strangely at variance with the precepts which he so strongly enforces in his essay

on Consumption, respecting the necessity of warm clothing as an indispensable preventive against the attacks of that formidable disease, in those disposed to its attacks. On this point the reviewer in the British and Foreign Medical Review aptly remarks :—" Physicians are so prone to fancies of this kind, that one cannot wonder to find unprofessional people duped by the most extravagant assertions of pretenders : but surely it is a reproach to medical men to be so much divided respecting the common influences of external objects on human health.

" With some interruptions, Dr. Armstrong continued to lecture ; and with the usual infatuation of the consumptive, felt no anxiety either on account of his cough or his debility ; early and warning symptoms, which his acute observation would not have passed over in any of his patients. The remainder of his life was but a continual struggle between an ardent and unyielding mind and a remorseless malady. From occasional excursions into the country he generally returned refreshed, and desirous of resuming all the duties which he was again and again compelled to relinquish, until he at length felt that he must wholly desist from them. Often, says the writer above quoted, as we observe medical men exhibiting the same self-delusion as others, when actually sinking under phthisis pulmonalis, suspicions, one would suppose, must now and then present themselves, that all life's scenes are drawing to a termination. It is difficult, before age has brought some indifference to worldly pursuits, to accept the signal which shows us that we must retire : every hope, however frail, is willingly received,—every little amendment renews those sanguine expectations of returning health and strength and activity which are never to be realised. Restless nights, languid days, feverish evenings, hours unoccupied, a wasting frame, the intermission of all pursuits, even these preludes to more complete death, do not seem to interpose themselves strongly between the patient's hopes and the busy world, with which all but himself plainly see that he has done for ever."

After several visits to the country, and having been on occasions revived, and returning to town and even engaging in the active duties of his profession, Dr. Armstrong was, to all near him, visibly broken in spirit and fast fading away.

"It was most affecting," observes his biographer, "to witness the persevering but ineffectual efforts he made to rally his sinking energies, and to enter once more upon practice. His mind seemed to infuse vigour into his wasted and enfeebled frame, and for two or three weeks he was much occupied in visiting patients, in, and for a distance of several miles from, town. But he came home always in a state of great exhaustion, and it was painful to observe his instinctive promptness to attend to the calls of duty, blended with the incapacity of exerting himself without greatly aggravating his sufferings. He could not be persuaded to abandon all thoughts of his profession; and it seemed a relief to him to feel that he was yet capable in some degree of being useful to his family.

"On the 19th he sent an urgent message to me, in the evening. I found him sitting in a corner of his drawing-room, remote from the fire. He told me that he had taken a warm bath, and that he had discovered while in it a fracture of one of his ribs; and he seemed wholly absorbed with the idea that this neglected injury was the origin of his sufferings. The suspicion of this injury, which was entirely groundless, prevailed for a short time; so that he became fearful of making any unnecessary exertion. A few days after this he declined seeing more patients; and, after some feeble attempts to rally himself by exercise in his carriage, and, taking short walks on Highgate Hill, he took to bed.

"The last day he rose from it was the 1st of December. I visited him the next morning in his chamber, and he said that he should never leave it. He was in a state of perfect composure of mind, and fully resigned to his fate. On the 3d he told me he might live ten days; that he had done all he could to combat successfully against the disease under which he laboured, but that it had been in vain, and there now remained but one duty more, and that was to rally all life's energies to die."

"Not many days before his death, the stethoscope was applied to his chest by Dr. Thomas Davies, and the precise accuracy of the diagnosis was verified by an examination after his decease. A large tubercular excavation occupied the upper third of the left lung, capable of containing from twelve to sixteen ounces of fluid; and the remaining portion of the lung was filled with tubercles in all their stages. The

upper half of the right lung was also filled with tubercles, accumulated in rounded masses, the interval between the masses being tolerably healthy : its apex contained an excavation capable of holding a small-sized walnut. Disease so extensive had probably been long in progress, and must have affected not his bodily health only, but in some degree that of his mind, so as, in our opinion, to account for some of the peculiarities to which we have, not disrespectfully, we hope, pointed.

Some additional particulars to those furnished by his biographer are given by the reviewer, which will properly find a place here.

" Dr. Boott has, we feel assured, very faithfully given us a description of the opinion he was enabled to form of Dr. Armstrong, in consequence of the intimate friendship subsisting between them. But he has either thought it a part of a biographer's office to conceal every trait not possibly deserving of praise, and thus to compose rather an eulogium than a biography, or he was unacquainted with peculiarities which to others were well known, and which help to illustrate a character apparently not easy to be understood, and concerning which very opposite opinions prevailed. By those who were in habits of intimacy with Dr. Armstrong in his latter years, when he had surmounted the difficulties which have overwhelmed so many aspirants for professional success, and when his receipts were very considerable, it was perceived with sorrowful surprise that the smallest deficiency in the amount received in any one month made him prone to despond, and to indulge in a morbid apprehension that he was destined to be the victim of extensive professional jealousy. A professed, and we believe, a sincere reformer, he beheld with little pleasure new schools arising in which new methods of teaching were to be followed, and he prognosticated their failure. The lectures of men many years his juniors, and who never affected to rival his fame, gave him an uneasiness which he could not refrain from exhibiting. He was still governed by an ambition of which it must be allowed that the objects were by no means unworthy, but which was in itself too restless for his own happiness. Even when the disease which proved fatal to him had begun to show itself in his appearance and countenance, his mind was busy with the plans of future years. He meditated a removal to the west end of the

town, and, in about ten years more, he considered that he should probably be rich enough to seek a seat in parliament, where he avowed his intention of proposing some of the medical reforms which no one then dreamed would be sooner accomplished. The tranquillity of his manner whilst detailing these plans was remarkably in contrast with the scope of his aspirations; and, now that death has interrupted all his earthly hopes, a vivid impression of his appearance and conversation remains in the recollection of those who heard him, which nothing can efface. Yet this continual desire to be the first man in his profession, the impatience it created of the obstacles which arose out of his deficient primary education, the groundless but tormenting ideas which always seem to have haunted him of the uncertain tenure of his practice and his popularity, and his extreme openness to every exciting impression, little fitted him for the daily toils and collisions of such a whirlpool of intellectual struggles as London. With a more patient temperament, and in a more limited scene, and with a more chastened ambition, his useful labours might perhaps have been calmly reviewed by himself, and even prolonged many years."

We shall complete the progress of the man and the physician by again borrowing from the pen of his perhaps too partial biographer. And yet, why in this so often clouded and troubled world should we be slow to give our assent to the description of moral light and mental beauty?

"In person, Dr. Armstrong was tall and thin; his manners were gentle and unpresuming, almost diffident in the presence of strangers, exclusively domestic and retired from the world, when the calls of duty did not require his intercourse with it. His nature was candid, confiding, unsuspicious; his sensibilities lively and acute: his tastes discriminating and refined. There was a simplicity and innocence of mind and disposition about him which endeared him to all who knew him intimately, and which won for him especially the confidence and attachment of the young. When released from the cares of his profession, he entered with unmixed delight into the sports and occupations of his children, and appeared to derive as much liveliness of enjoyment from them as they did. It was entirely foreign to his nature to

speak to them, for a moment, harshly. There seemed to him something essentially pure and angelic in childhood, as if its delicacy forbade reproof, even for its occasional waywardness. As a father, he was always most tender and indulgent; and when occasion required from him 'the sterner countenance of love,' it was an effort above his powers, and the tone of admonition melted into the softer persuasions of the most tender and confiding affection. I never knew any one who required or who sought so instinctively to promote the affections as he did; and nothing so soon overpowered his self-possession as the evidence and the love he inspired in children. Their unreserved recourse to him at all times, and their frank appeals to his kindness, invariably brought tears to his eyes: and there was a smile upon his countenance, a struggling emotion in the tones of his voice as he addressed them, with his hand gently patting them on the head, which forms in my memory one of the most frequent and familiar of my recollections of him.

"He was a deep and enthusiastic admirer of woman. There was a tenderness, blended with dignity in his manner towards her, of which the most intimate friendship never made him forgetful; and a delicacy in his conduct, which, united with the characteristic firmness and persuasion of his manner as the physician, contributed largely to his success in life. He spoke of many he had known with an almost poetical enthusiasm,—their purity, the devotion, the fortitude, the self-denial, the submission under suffering and privations, displayed in their lives, having inspired him with the profoundest admiration of their character.

"He carried the sagacity which he displayed in his profession into his observations of life, and none of its more delicate and evanescent beauties seemed to escape his notice. It formed one of the peculiar charms of his conversation, to observe from it how quickly and sensitively he perceived and felt those instinctive actions and expressions which give individuality to character. That exquisite simplicity and truth of observation which constitutes the charm of the natural historian of Selbourne, was equally observable in Dr. Armstrong's remarks

upon mankind. His dislikes were as transient as the shadows over a sunny landscape. He was one of those who believe in the essential excellence of human nature: and if ever forced to doubt of it, the slightest manifestations of kindly feeling were sufficient to restore his faith in its propensity to natural and increasing good.

"Though susceptible of a playful humour and an occasional gaiety of feeling, he was naturally of a serious cast of character; and from the absorbing interest he took in his profession, the distressing scenes he moved in, and the thoughtful bent of his mind, he often wore a look of abstraction and concern. He was wholly unsuited to mix in the pursuits of fashionable life. He had no community of taste with its admirers, nor capacity to appreciate the trifling objects of momentary interest which the fluctuating surface of society presents to those who are content with its fleeting novelties. His only sources of happiness were in the contemplation and practice of his profession, in the hallowed seclusion of home, and in the society of a few intimate friends.

"He was more exclusively and anxiously devoted to the duties of his profession, than any man I ever knew. Nothing it required ever appeared to him an encroachment upon his time, or an invasion of his ease. He never refused to attend the calls of distress, and was always most liberal of his time and advice to the poor.

"His pupils were warmly attached to him, from the interest he took in their improvement and their comforts. He watched over them in sickness with paternal solicitude. He blended so much of the generosity of his nature, the sensibility of his feelings, and the purity of his taste in his lectures, that no public teacher was ever held in higher admiration or respect. No one who was unable to incur the expense of taking his tickets was ever dismissed as an unsuccessful applicant. Such, indeed, always found in him the friend in need: for he obtained for them free admission to the lectures of his colleagues, and assisted them in other ways to complete their medical education.

"He was fond of literature, and especially poetry. The following lines, to a lady dying of consumption, he wrote many years ago. The thought in the first verse is beautiful for its truth and originality:—

"Sweet Margaret! again the hectic glows,
Enamoured, o'er thy cheek of loveliest bloom:
So pass the sun-beams o'er a withering rose,
And faster fade its beauty and consume.

"Sweet Margaret! awhile the grave's dread gloom
Shall deepen round thy last oblivious rest,
Then bursting forth, an angel, from the tomb,
Pure thou shalt rise, and mingle with the blest."

Some other specimens of his poetical effusions are added by Dr. Boott; which, as the latter truly says, though characteristic of the refinement of his mind, but imperfectly give an idea of his poetry.—Good taste, rather than imagination and smoothness of verse, is evident in his writings of this class.—The following, however, displays considerable harmony:

THE WISH.

"Obscurely let me live and die,
But not unknown, unhonoured lie.
Oh! may the poor and wretched trace,
My grave in some sequestered place,
Where nameless streams my requiem sound,
And nature breathes in beauty round;
There, ardent, may their blessings rise,
Like incense offered to the skies."

1808.

"The pensiveness that breathes in these verses was," we learn from Dr. Boott, "habitual with him. Though surrounded with every thing which could give happiness to life, there was often a sadness in his turn of thought, that touched deeply the inmost feelings of those about him. It was not called forth by any passing circumstance, nor associated particularly with his own condition, but the expression of the sensibilities and the reflections of an acute mind, which, glancing at the condition of human nature, aspired to something beyond its present destinies.

"I know of no defects in his moral nature. If he had not the industry as an author which many gifted men possess, it did not arise from indolence, but from exhaustion,—at least at the end of the active labours of the day; and that several of the last years of his life were passed under the secret undermining influence of the malady which destroyed him, is but too evident from its close.

"There are others far more capable than myself of doing justice to his talents.—If the voice of many who knew him well, could be heard, it would be found that few men had superior powers of inspiring attachment; and that the friendships which others formed with him were tributes to his moral as well as his intellectual pre-eminence."

Doctor Armstrong died on the 12th of December, 1829, aged forty-five years, seven months, and four days. He left six children—three sons and three daughters. His younger son died about seven weeks before him, and lies by his side. This was the only loss he had experienced in his family.

Having now completed the first part of our proposed task, by narrating the chief events in the life of Dr. Armstrong, and showing the steps by which from obscurity and poverty he advanced to fame and full professional employment, it remains for us to speak of the author and of his claims to originality and usefulness of doctrine.—Although the theme be a tempting one, we need not largely dilate on it in this place, since the professional reader will have an opportunity, in the perusal of the present work, of becoming well acquainted both with the speculations and practice of Dr. Armstrong.—The other works of the author have also been spread before the American medical public for several years,—and time and means have been furnished to enable it to see both their intrinsic and peculiar merits, and their confirmation of opinions and practice inculcated long before by Dr. Benjamin Rush.—We shall, therefore, be excused if we restrict ourselves to a brief repetition of the prominent points of doctrine advanced by our author in his several works.

First in order of time are his views respecting the pathology and treatment of *Puerperal Fever*. Dr. Armstrong regarded this disease

to be one of a highly inflammatory character, modified only by the nature of the exciting cause, according as this was common or specific. In his essay on the subject, he remarks : " The first stage is marked by highly inflammatory, the second by highly typhoid characters, and it has always appeared to me that the tendency to putridity, in the latter, was proportionate to the degree of inflammation in the former."—He made afterwards no distinction between puerperal peritonitis and what has been called 'low malignant puerperal fever,' but that which depended upon the nature of the exciting cause. He believed that in all cases of parturient women, there was a predisposition to peritoneal inflammation, and that this might be developed by the common or the peculiar exciting causes of fever.

Puerperal peritonitis does not differ in kind, he alleges, but in degree only from the low puerperal fever.—In both, he considers the inflammation of the peritoneal covering to be the essential part of the disease ; and his object is to show, that the same depletory and antiphlogistic method is applicable to both ; and that from the more rapid course and more fatal tendency of the low puerperal fever, the powerful remedies of free blood-letting and purging become indispensable.—It is only by the early and vigorous use of these remedial means, in the first stage, that the disease can be cut short before passing into the second and destructive stage, from which few or none can be recovered by any method. In this stage, indeed, blood-letting could only, the author assures us, hasten the fate of the patient.

If the disease arose from a local contamination of air, as in the crowded wards of a hospital ; or from a general distemperature of atmosphere, as where it prevails in private practice, especially among the poor of cities,—he looked upon it as a specific fever, as typhus, in fact, combined with the local inflammation to which the patient was peculiarly predisposed : and those cases in which from the first, the pulse was soft and compressible, and the heat on the surface not above the natural standard, he considered as almost inevitably fatal. But when the pulse was strong, and the heat high, he believed that the case was, generally, as much under the control of decisive venesection, when it arose from a peculiar as from a common cause.—His practice

in this, as in most inflammatory diseases, was modified eventually by his discovery of the advantages arising from the free use of opium after free depletion ; so that, towards the close of his life, he did not exhibit calomel as freely as formerly, though he always used it in the specific form of the disease.

By reference to Lecture XLI, under the head of Treatment of Fever in the Puerperal State, the reader will see the importance which Dr. Armstrong attaches to the early and vigorous treatment which he recommends. Inflammation, he tells us, is the cause, and bleeding and opium are the remedies ; the first carried to the extent of producing an approach to syncope—until the pulse completely falters, the face becomes pale, and the hands drop by the side. As soon as the patient recovers from this state, three grains of opium are to be administered.—If, after a lapse of four hours, and the physician should not, he tells us, stay away longer, there be pain on pressure, we are to adopt the same decisive means again. Pain and fever still continuing after the second bleeding, this should be followed at the end of two or three hours more by a similar operation. The lecturer continues, "I seriously and solemnly assert, that I have treated nineteen cases out of twenty successfully, when they have come under my care from the onset ; but I will not dwell longer upon the subject now, because I have adverted strongly to the advantages of this practice in a former lecture. I have generally succeeded in removing the disease by the second bleeding." .

Opium in full doses after bleeding so as to produce relaxation, is also recommended by the author, in the phlegmasiæ generally, viz. in inflammation of the uterus, kidney, liver, pericardium, pleura and lungs. If a third bleeding were requisite, he combined small doses of calomel with the opium ; a combination which, from the first, he advises in acute hepatitis. He points out some conditions in which the use of opium is contra-indicated, as in cerebral irritation, and when the tongue is dry, unless the dryness proceeds from profuse spontaneous hemorrhage.

In his work on *Typhus Fever*, that work which has most contributed to the reputation of Dr. Armstrong, as an original thinker

and writer in medicine, he fully demonstrated the efficacy of blood-letting in the early stage of the disease, and proved that the signs of debility and malignancy towards its close were, as in puerperal fever, in proportion to the degree and duration of the previous inflammation. He distinguished with admirable precision the different forms and stages of the disease, and established principles of practice on a rational and philosophic basis, which have for ever banished the doctrine of debility being from the first inherent in typhus fever. He instituted a precise but variable, for an indiscriminate and exclusive practice; made opposite agents under different circumstances, contribute to the removal of the same malady; marked with distinctness the symptoms of its varieties, the indications of their origin, progress and termination; showed when and how far the active resources of art against venous congestion in inflammation may be safely applied; in what manner they must be proportioned to the existing state, and when safety alone depended upon a reliance on the unassisted resources of nature.

In thus repeating, as we have done in the last paragraph, the language of a sincere and intelligent eulogist of Dr. Armstrong, we should be wanting in historic fairness, to omit stating that the author has the merit simply of reviving in England a practice which had been recommended and pursued more or less fully by Sydenham in all fevers. He fixed, also, the attention of his countrymen on the effects of remedial measures—blood-letting and calomel—which, through the lectures, writings and clinical practice of Dr. Rush had been long before familiar to the American physicians. Our own distinguished teacher had expelled nosology and its trammels, and had shown the errors and inconsistencies of the Cullenian pathology and practice, a generation at least before Dr. Armstong entered the arena and began a similar attack. The early and extensive popularity which the volume on Typhus Fever acquired for the author in the United States, is, we think, in part explicable, in addition to its other merits, from the coincidence between many of the views advanced in it, and those with which the profession had become familiarized through Dr. Rush. Among these we may include the doctrine of congestion, which, under the name of *depressed* or *locked* state of the system, had been so much enlarged on by the

latter author. Dr. Boott himself is not backward in giving the American physicians credit for an earlier insight into the nature of fever than is to be found in the works of English authors. He refers particularly to Rush, and to Gallup's Sketches of Epidemic Diseases in Vermont. This last was published in 1815; "and the first section of his fifth chapter will show that his views of congestion were precise and his treatment admirable."

Respecting the origin of Typhus Fever, Dr. Armstrong's opinions underwent no little change. At first, in imitation of his teachers and the chief authorities of the time, he was a contagionist, or rather he believed human contagion to be the sole origin of genuine Typhus Fever. He afterwards admitted marsh miasmata as a cause of equal force and frequency; and still continuing his progressive incredulity for his first opinion, he went almost to the point of entire disbelief in contagion. He felt himself obliged, from a few facts which had presented themselves to his observation in 1822, to admit that it was under certain circumstances contagious. But in 1825, and especially towards the close of his life, the doubts which he had entertained on the subject were almost entirely removed; and he confidently anticipated the time when the same change which had occurred throughout North America, with respect to the non-contagious nature of the Yellow Fever, would take place in Europe with respect to Typhus.

The volume, entitled "*Practical Illustrations* of the Scarlet Fever, Measles, Pulmonary Consumption, and Chronic Diseases, with Remarks on Sulphureous Waters," has less of novelty than that on Typhus. In the words of a critic in the Edinburgh Medical and Surgical Journal it "may be pronounced, an excellent and practical work." The masterly views of a congestive form of fever, which he had so admirably developed on the subject of Typhus, were by him equally extended to Scarlet Fever, and his account of its malignant variety is especially valuable, as throwing new light upon this most formidable modification of the disease.

In his observations on Measles, he insists upon the propriety of a mild treatment in the common forms, and upon our early guarding against the effects of acute or sub-acute inflammation, by timely measures of

depletion, which must be proportioned to the existing circumstances of the commencement or the decline of the malady.

The essay on Consumption is mainly valuable in a preventive point of view, by indicating the chief circumstances of predisposition, and the precautions to be adopted on the score of clothing, equable temperature, suitable diet, exercise, &c. He points out in terms of strong reprobation the practice among young men of drinking ardent spirits, which, with Dr. Home of Edinburgh, he would call the bane of human nature, and the most pernicious discovery ever made by art. It is really lamentable, he says, to see how many young men die of consumption induced by drinking wine or ardent spirits, but especially the latter.

We shall not pretend to follow Dr. Boott, in his elaborate and copious illustrations of his friend Dr. Armstrong's doctrines and practice in Fever, which constitute much the larger part of the two volumes, entitled "Life of John Armstrong, with an Inquiry into Facts connected with Marsh Fever." From the first part of this labour of love, we have, it has been seen, freely borrowed whatever we deemed necessary to convey a knowledge to the American reader of the character, intellectual and moral, of Dr. Armstrong. Occasionally we have somewhat shaded the over bright colouring of Dr. Boott, by adopting the language and impliedly the sense of a less partial, though we ought not to call him unfriendly, writer and critic*.

We believe that we shall not be doing injustice to the memory of Dr. Armstrong, if we once more cite an opinion respecting him from the same quarter. "The impression we entertain is, still, that he was justly eminent as a practitioner, and more than commonly qualified by the habits of his mind, and by his disposition, for exercising the patient and unostentatious duties of his profession; that he was diligent, observing, perspicacious, humane, and to his profession enthusiastically attached. It was partly the misfortune of his education, and partly incidental to his sanguine temperament, that he was ever too easily induced to think himself original, and felt an almost restless eagerness to see every thing

* In the British and Foreign Medical Review.

in a new light. The early traits of his character as an author and practitioner, which were developed in his publications on Puerperal Fever, seem to us to be discernible throughout his whole life. In all his subsequent compositions we remark the same powers of observation and description ; the same felicitous adaptation of practice to the particular disease before him; the same belief that whatever he himself knew at the actual time was the limit at that time of other men's knowledge; the same self-complacent depreciation of his real or supposed opponents; and the same air of being sacrificed to the cause of practical truths, unwelcome to the speculative and the learned."

On the same authority we shall add: "The pious office of preserving and publishing his Lectures, has been performed by Mr. Rix with singular ability. We respect even the *enthusiasm* of a student for his preceptor; and if we have noticed passages with disapprobation, which might have been left out without detriment to the lectures, we can easily comprehend Mr. Rix's motives for abstaining from the mutilation, and with these defects, we cheerfully acknowledge that the volume* is still extremely valuable."

In conclusion, we would inform the reader that, for the better understanding and appreciation of the doctrines of Fever, by Dr. Armstrong, we have added, in the form of a supplement to the second volume of the present work, a summary on the subject in his own words.

* The London Edition of the Lectures is in one large volume.

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ARMSTRONG'S

PRACTICE OF MEDICINE.

LECTURE I.

INTRODUCTORY.

The object of these Lectures is to illustrate the Principles and Practice of Physic, and to explain the circumstances which are either directly or indirectly connected with what has abstractedly been called Disease.

The first foundation of physic must have been laid at a very early period;—of the practice from instinctive attempts to remove physical suffering, and of the principles afterward, from observing that certain things were useful, and certain others detrimental, to the human species. Herodotus observes that the Babylonians were accustomed to expose their sick in the market place, that those who passed by might communicate information of any remedy which had been used by themselves, or which they had seen administered to others, with success. For a long period probably the practice of physic was not confined to any one class of persons; but in process of time individuals, remarkable for their talents, observation, and industry, were selected from the multitude, and employed as medical men. The application of remedies in the early ages must have been very indiscriminate. In the savage state, if no remedy suited to a disease were pointed out by previous use, man naturally was led to make experiments; if these failed, he invoked some spirit or other, called upon some favourite divinity for relief; and thus superstition became grafted upon physic. The Egyptians erected temples in which they placed the records of medical facts as they occurred; and to dispute the truth of these records was a capital offence. Bacon gave this proof of his superior understanding: he said "that he only found one man up to his time who had studied physic the right way;" that man was Hippocrates, who separated physic from religion, and cultivated it as a distinct science. He was the first who denied

that diseases were produced by supernatural agency, and maintained that the Deity acted by secondary causes, by which diseases were produced. Sydenham concurred in this opinion, and when asked by Blackmore what work he should particularly recommend a physician to read, answered, "Don Quixote," who refers all diseases to witchcraft. Sydenham, equal as a practical observer to Hippocrates himself, was one of the greatest men that ever lived in the medical world. He came to London with a noble object in view. He burst the bubble, and exposed the mockery and mummery of physic as it then existed; and, by his own illustrious example, amidst the fluctuations of theory and fashion, endeavoured to lead men to think and act for themselves. The time, however, had not yet arrived when his discoveries could be appreciated, and the result was that he was slandered, persecuted, and probably driven to an untimely death. But the laurels which his cotemporaries refused to twine around his living brow have been planted on his tomb by the justice of posterity; and that college which stood arrayed in persecution against him—which disgraced herself by attempting to smother the rising flame of his genius—has since bowed to his shrine, and still boasts her brightest ray in the glory of his name.

If we pass on from Egypt to Greece and Rome, where the cultivation of the fine arts was carried to the highest perfection, we shall find that but little progress was there made in the study of medicine; and it may be interesting to trace the causes which retarded the progress of this most important science.

The first was Ignorance: the ancients knew scarcely any thing of anatomy and physiology. Their horror of dissection kept them in a state of profound ignorance of anatomy. Their physiology and pathology, for the same reason, were mere conjectures, and their conjectures were made without good foundation. Rather than wander in doubt the human mind will always rest in error.

The second cause which retarded the progress of medical science was Presumption, out of which arose false philosophy. Men vainly erected imaginary laws to account for phenomena which they observed, and attempted to make the operations of nature accord with their theories. Those laws have been changed; but nature remains immutable, and her operations eternally the same.

The third cause was Credulity. Few men like the trouble of thinking for themselves, and many content themselves with following the opinions of some daring speculator. And this we find to be the case where we should little expect it. A monk, cotemporary with Galileo, discovered some spots on the sun, and communicated the discovery to

a brother monk, who told him that he had read Aristotle through with diligence and attention, and did not see it there mentioned; and, therefore, advised him not to divulge the secret, lest the people should deem him mad.

The fourth cause which retarded the progress of the science of physic was Cunning. The ancient world was composed of two classes—knaves and fools. The knaves, who were the few, contrived to keep the fools, who were the many, in a state of profound ignorance. The priests, to whom the slender knowledge of the healing art which existed was principally confined, increased their authority by concealing their ignorance, and making a mystery of what little they knew. But modern times have been more favourable to the development of general and of medical science. Generation after generation made but little progress; Galen mixed up his own philosophy with the doctrines of Hippocrates; and men were for a long time content with commentaries on the writings of these men, till, in the sixteenth century, Paracelsus, discarding the authority of Galen, attempted to establish chemical principles, some of which exist, at least in practice, to this day.

In the next century Harvey and Sydenham in our own country, Boerhaave, Stahl, and Hoffman, abroad, introduced many changes, both in the theory and practice of medicine. In still more recent times, Cullen, Brown, and Darwin, amid a host of others, have been conspicuous as influencing the progress of the science of medicine by their doctrines. And the improvement of the medical art is one of the most important circumstances of the present times. This improvement has not been produced by one man, but by many men. It is the work of the age in which we live. The revival of ancient literature was one cause of the improvement of medical science. For many ages all the knowledge of the Greeks and Romans was confined in libraries, until at length the Greek language began to be studied, and knowledge began to be diffused. The genius of ancient Greece and Rome arose like a new sun, and enlightened the world, and the gross darkness gave way. It breathed like a spiritual agency, and revived the drooping spirit of science, and the deluge of ignorance began to subside. The Reformation, and the discovery of the art of printing, have also assisted to bring about this improvement; and though medicine has enjoyed the accumulated labours of great and learned men of all ages, yet the present æra is big with important discoveries. The numerous labourers of the present times have well nigh cleared away the ruins and rubbish of past systems; but the ample superstructure must yet be securely and splen-

didly reared by the medical architects of future ages. We must not be content with our present state of improvement, but must go on, persevering in our efforts to establish what is right, that truth may trample upon error.

Surgery was separated from physic in the dark ages; and the continuance of this separation, which ought never to have been made, is greatly to be lamented. Euripides says, that one wise head is worth a great many hands. An operating surgeon should have a clear pathological knowledge of febrile disease; for as soon as an operation is performed the case comes under the province of a physician; and the most proper physician for each case is the surgeon who has operated.

The circumstances which are connected with disease are very various, and it is therefore requisite to arrange them under certain heads.

The first important point connected with the study of disease is Anatomy and Physiology—a knowledge of the structure and functions of the different organs of the body. In the earlier ages you will find that, spite of all difficulties, an acquaintance with anatomy and physiology was derived in some degree from the dissection of animals. So also in the most ancient countries in which physic was practised as a separate branch of science, some knowledge of the same subject was acquired by various means, and amongst others by the sacrifices which were made by the priests. But their horror of the dead prevented the ancients from cultivating, to any considerable extent, the study of anatomy and physiology, the knowledge of which has only been acquired through a succession of ages, and especially since this horror has been diminished. By anatomy we acquire a knowledge of the situation, of the structure, and also in part of the functions of the body; but with respect to physiology, we must observe not only the situation and structure of the organs of the body after death, but also their functions during life; and by continuing our observations on both these sources we can alone acquire a competent knowledge of physiology. Nor will Human Anatomy alone be sufficient for this purpose; for many functions can only be understood by a reference to inferior animals,—by observations made on organized creatures throughout the whole range of animated nature; and Comparative Anatomy, if properly attended to, would preclude the necessity of many cruel experiments.

But still another point is important, namely, Experiments. When the dissection of human bodies, as well as those of the inferior animals, fails to reveal the functions of different organs, then we may properly have recourse to experiments: but we are not justified in making experiments upon living animals without some distinct object. It is

criminal to inflict unnecessarily any degree of pain upon the creatures which are placed in our power.

Morbid Anatomy is of material assistance in ascertaining the functions of organs, and is therefore clearly connected with physiology. To give one illustration: if we were carefully to notice the symptoms of a certain affection of the brain, we might infer from the state of that brain, as displayed by dissection, what were the sound functions of the organ. Another important advantage to be derived from morbid anatomy is the removal of any vague conjectures which may have been formed. By showing us the cause of death, it may give us an approximation to first principles—it may lead us to generalise the subject, by referring individual facts to certain more general facts or first principles. Ancient medicine is distinguished by conjectures, modern medicine by facts and legitimate inferences. The hypotheses of the ancients were built on shoals and quicksands, and Time, like a resistless wave, has swept them away; but the present foundation of medical science is laid broad and deep—on the firm rock; upon which may be erected, by the present and future generations, a splendid monument, which shall stand unchanged amidst the shocks and convulsions of nature. The difference, indeed, between ancient and modern medicine chiefly arises from the diminution of the dread of the cultivation of sound and morbid anatomy which has of late years taken place both in the public and amongst private individuals. Great part of modern pathology is the result of observations made within the last half century: Bonetus, Lieutaud, Ruysch, Haller, Morgagni, and others, may have led the way; but I repeat that modern pathology is principally the result of the attention which has of late years been paid to the symptoms of disease, and more especially to the effects of disease as displayed by dissection; and it is strange that magistrates in this country seem to encourage that horror of anatomical research which still exists in the public mind. If any such individual were to reflect upon the important duties which a medical man has to fulfil, he would never throw impediments in the way of any investigation by which a doubt may be cleared up, or that which was obscure may be rendered obvious and plain. Suppose, for example, that a medical man attends a child which dies, and that a doubt has been left on his mind as to the nature of that complaint which has been the cause of its death; if he were to pause and say to himself, "Am I to add to the miseries which are already the lot of the parents of this child? Am I to ask permission to mangle the body of this child, which but yesterday prattled before them?" If, I say, he were to act thus, he would betray one of the most tender and hallowed

trusts which one being can confide to another—he would be like the serpent insidiously stealing into the bosom of a family, and inflicting a deadly poison there: he would remain ignorant of the cause of death, and would be one of the most destructive individuals in that society whose confidence he possesses, and whose sacred trust he has sacrificed to a novel and a morbid sensibility. Let us then have no more canting, but let us make the bodies of the dead useful to those of the living. I believe that it is not true that medical men have less feeling than other men; at least as far as my intercouse with them has gone, I think I have observed them display on the whole as kind and compassionate feeling as other men, or even more. I consider that no men practise virtue so much; but medical men make their feelings give way before their judgment, and this constitutes the difference. I repeat, then, that I recommend to you to cultivate minutely, not only sound anatomy, but morbid anatomy; for in these all the mysteries of disease often lie. Each, in the gross, is of very little value, though both combined are very useful: but while both have their utility, yet it is morbid anatomy alone which can make us acquainted with ultimate results,—with the disorganization of the particular structure which has been the seat of a disease occasioning death. Here is still open an extensive field worthy of observation.

But the preceding circumstances or facts are also of great importance; and these admit of certain arrangements—for example: 1. Predispositions; 2. Occasions; 3. Disorders; 4. Diseases.

1. Predisposition is the liability or tendency to disorder or disease.

2. The Occasion is the agent or circumstance which gives rise to such disorder or disease.

3. Disorder essentially consists in some error in the movements of the solids, or in the distribution of the fluids,—or in some change in the blood or secretions.

4. Disease essentially consists in something being added to, or taken from, the natural structure of a part.

1. Predisposition again admits of four sub-divisions; for the tendency or liability to disorder or disease is either—

1st. Hereditary, descending from member to member of particular families;

2d. Ætal, connected with age;

3d. Sexual, connected with sex; or,

4th. Acquired.

Predisposition is a sort of neutral state, between health and a state of disorder or disease: it consists in a tendency or liability to, without

the actual existence of, disorder or disease. This tendency seems to have performed a very conspicuous part of ancient pathology, and is, in my opinion, by far too much neglected by practitioners in the present day. Demosthenes, in one of his beautiful addresses, advises the Athenians not to he afraid of Philip, assuring them that from some shock all his weaknesses will be called forth, as is the case in the human body, in which all the latent infirmities may be called out by some unexpected impression. Celsus clearly pointed out the doctrine, the credit of which is now given to Mr. Abernethy, and which he has indeed done much to illustrate. The doctrine of predisposition is of the greatest importance in a preventive point of view; and if we take the whole of the sources of predisposition which I have enumerated, and trace them through society, we shall find, that in the civilised world at least, scarcely one individual can be said to be physically sound; we shall find in almost every person that there is some latent fault, which may become disorder or disease when such an occasional agent or cause is applied as will disturb the body either generally or locally.

2. Occasions or Agents are very various: they are Common, or Peculiar,—and they are also Mental, or Material.

Common Agents, judging from their effects, produce either a depressing influence, a stimulating influence, an irritating influence, or, to the circulation of the blood, an interrupting influence; and may, therefore, for the sake of brevity, be called—

1st. Depressants;

2d. Stimulants;

3d. Irritants;

4th. Interruptants.

Peculiar Agents are also very various; and they likewise admit of arrangement under distinct heads; for example :—

1st. Malaria; a state caused by a certain condition of the earth's surface with a certain condition of the atmosphere—a terrestrial and aërial condition.

2d. Other states appear to be connected with a certain condition of the atmosphere, perhaps unconnected with any peculiar condition of the surface of the earth.

3d. Human Contagions.

4th. Putrid Matter.

5th. Animal, Vegetable, and Mineral Poisons.

Common and Peculiar Agents may be said to disturb—

1st. The Mechanical functions; which are chiefly referrible to the heart and vascular system.

2d. The Chemical functions; which are chiefly referrible to the fluids of the vascular system.

3d. The Vital functions; which are chiefly referrible to the nervous system.

In fact, they disturb all these functions, which bear a mutual relation to each other; for when one becomes disordered all the others become more or less involved in the disturbance on account of their intimate mutual connexion. They affect also the structure upon which the functions depend. We must, therefore, lay the foundation of an external and an internal pathology; for the systems of physic which now prevail in this country are to physic what the arrangement of Linnæus is to animated nature. Linnæus has, as you know, classed the bat with man: in fact, he has made an external pathology; and you will find quite as great incongruities in some of the eminent systems of medicine. I would not have you attach much importance to nosological arrangements, except as a medium of comprehension between the teacher and the pupil: it is a ladder by which you may ascend, but which, having once climbed it, I should recommend you to throw down. Cullen's Nosology I consider to be founded on the grossest fallacy, and whatever respect I may have for the talents of Dr. Cullen, I consider it to be my duty to say that a great part of his system is very erroneous. The external, or symptomatical, pathology, comprehends merely the signs of disorder and disease; but these signs must be referred to certain changes either in the solids or in the fluids of the body; and a classified arrangement becomes necessary, and tends to facilitate the acquirement of knowledge and truth. It would be absurd for me to come here and throw my thoughts at random about me, like nuts, but I must give them in proper order, and with some regularity of arrangement.

An agreement is to be observed between certain facts and certain classes of phenomena to come at general laws; to arrive from individual facts to certain more ultimate facts, which may be termed general principles. It is also necessary to point out particular facts and circumstances, or those causes which modify the application and effects of remedies.

If I were to endeavour, then, to facilitate the acquisition of information, I should begin with—

1st. The physiology and pathology of the human body; and

2d. I should arrange the various affections of the human body under two classes; the one comprehending the acute and sub-acute affections, and the other the chronic affections. This arrangement into two great classes is written upon the very face of nature.

I. Acute and sub-acute affections are those that begin and terminate in a short period; and they arise from either a common or peculiar occasion.

1. When they arise from a Common Occasion they may (as is proved by an attention to the symptoms during life, and to the morbid appearances after death) be referred to three varieties, namely—

1st. Common Congestive Fever; 2d. Common Simple Fever; and 3d. Common Inflammatory Fever.

1st. Common Congestive Fever, in its most perfect form, consists of a diminution of the heart's action and of the animal heat, attended by a marked interruption to the functions of some organ, which organ, after death, will be found to be more or less the seat of venous congestion. Obscure references to this very important form of fever may be found in the writings of Hippocrates; and Sydenham seems to have observed it, though he does not advert to it distinctly.

2d. Common Simple Fever consists of a simultaneous increase of the heart's action and of the animal heat, attended with so equal a distribution of the blood through all parts of the body, that no one organ can be said to be positively inflamed.

3d. Common Inflammatory Fever has all the common characters of common simple fever, with the addition of inflammation, either of some internal, or of some external, part of the body.

2. Peculiar Agents or Occasions, as malaria, certain states of the atmosphere, human contagions, putrid matter, and poisons; produce also, 1st. Congestive Fever; 2d. Simple Fever; and 3d. Inflammatory Fever. But the peculiar occasions always produce, with the effects of Common Occasions, some peculiar effects.

1st. Malaria sometimes sinks the strength very rapidly, and the person dies under a congestive form of fever.

2d. Sometimes malaria produces simple fever, which is peculiar in having such intervals or intermissions as are not observable in common simple fever.

3d. Sometimes, on the contrary, malaria produces a continued or remittent form of fever, which is blended with inflammation; which inflammation is remarkably uniform as to its seat. It is always found in the same structures, namely, the brain, the bronchial lining, the intestines; together with which there will be a morbid condition of the skin. So that it appears that a taint exists in the blood which affects all individuals in the same manner; and the probability is, that all peculiar agents produce certain peculiar effects on particular parts of the body.

II. Chronic affections, which form the second class, are those which arise and proceed slowly and insidiously. They sometimes follow acute or sub-acute affections; and sometimes precede them, so that acute and sub-acute arise out of chronic affections. Nothing is more common than to find acute or sub-acute inflammatory fever degenerating into a chronic form of inflammation; and, on the other hand, chronic inflammation often goes on for a length of time insidiously, and, at last, creates an attack of acute or sub-acute disorder or disease.

Whether chronic affections arise from a common or a peculiar occasion, they are still referrible to certain morbid conditions. All the symptoms in chronic affections, as in acute and sub-acute affections, are referrible generally to one leading condition or fact. These conditions may be conveniently arranged under the following seven heads.

1. Venous Congestion.
2. Simple Excitement.
3. Inflammation.
4. Certain nervous conditions (for want of a better name), with little or no disturbance of the vascular system; as in hysteria or other affections.
5. Certain changes in the quality of the blood.
6. Changes in the secretions from the blood; as observed in the formation of calculi, and in the deposition of tubercles and other extraneous growths.
7. Mechanical obstructions; as in certain diseases of the heart and blood-vessels.

Sometimes one or other of these states exists separately; sometimes, however, they exist in conjunction; for chronic affections in their progress often become complicated.

In Pathology then, two things seem to require to be considered, namely:—1st. The symptoms or signs; and 2d. The conditions or changes which take place, and which are connected with the symptoms: in fact, they stand in the relation to each other of cause and effect; and no pathology can be of use unless it connects the symptoms and conditions—the effect and the cause. This enables us to separate possibilities from impossibilities: it gives us an important view of the subject, which can in no other way be obtained. Unless a medical man have a distinct view of the cause of any affection, that is, of the condition upon which the symptoms depend, his practice will be a mere set of experiments on his confiding patient. But by referring the one to the other—as the effect to the cause—we create a close connexion between the remedies and the affection, a connexion which does not naturally exist.

In the human body it will be found that, under given circumstances, certain effects will occur from certain causes. If, for example, we employ any remedy, and ascertain precisely all the circumstances which exist at the time of its administration, we shall find under other circumstances of the same kind an uniformity of result. And should such an uniformity of result not be observed, we shall find upon more close investigation, that we had overlooked some circumstances which modified the effects of the remedy in this particular case.

There are many circumstances which influence the operation of remedies, and which require consideration.

1. The Seat of the disorder or disease.

2. The Nature of the disorder or disease.

3. The Degree of the affection; whether it be acute, whether it be sub-acute, or whether it be chronic.

4. The Duration of the disorder or disease has great influence. Thus the duration of inflammation of a vital organ modifies the treatment remarkably, and those measures which were proper in its commencement may be very unsuitable and injurious towards its close.

5. Age modifies the effects of remedies; so that the same disorder or disease in an infant will require treatment very different to that which would be proper in a middle age; and, again, the same disease in extreme age will require a considerable modification of treatment, compared with that which would be applicable in middle life.

6. Comparative Strength, previous Habits, and other peculiarities, have great influence on the effects of remedies. Medical men should pay great attention to this subject. The same remedial means will have different effects under different states, which are only to be known by minutely considering all the parts of each particular case. There is no other way of acquiring precision of practice, except that of minutely noting all the facts of each individual case, and all the various effects of each remedy under this and other particular circumstances.

The measures which we employ for the alleviation or cure of disorder or disease are few and simple; and they may be divided into, 1. Medical; 2. Regiminal; and 3. Mental. We do not trust to either of these means separately; but when combined together we bring them to bear on any particular case.

Having made these very rapid and imperfect remarks, I shall proceed to detail the plan which I intend to adopt in delivering these Lectures. I have hitherto begun to lecture in the middle; but, in this course of lectures, my intention is, as Lord Byron says, "to begin with the beginning." I shall divide the Course into three parts.

In the first part I shall explain the various methods of investigating predisposition, disorder, and disease. I shall, for this purpose, divide the body into several artificial systems—eight or nine—and shall take a distinct view of the healthy condition of these systems, and contrast it with their morbid conditions: and thus I shall endeavour to show their mutual relation. In this way I shall give you such preliminary information as will enable you to comprehend the second and third division of the Course; and this part will occupy eight lectures.

In the second part I shall proceed to the consideration of one class of disorder and disease, namely, the Acute and Sub-acute forms. In the beginning I shall consider the common occasions and predisposition; and, by doing this in one or two lectures, I shall save the necessity of so much repetition as I must otherwise employ; and shall devote more time to the morbid conditions, to the symptoms, and to the treatment, of acute and sub-acute affections.

In the third division of the Course I shall consider Chronic affections; and I shall enter much more minutely than I have hitherto done into the detail, not only of the rise, progress, and decline, of such complaints, but of the symptoms, the morbid appearance, and of the treatment of them; and I shall endeavour to refer all chronic affections to some ultimate fact: in short, I shall attempt to generalise the subject as I have done that of febrile affections; and I expect to be enabled to present it to your notice in an equally simple point of view.

A lecturer should exercise at all times the most unbounded liberality towards his pupils: and if, to any gentleman who may wish to attend these lectures, the fee may be the object of the slightest consideration, I would far rather forego than receive it; and shall be happy to give him a ticket confidentially between him and myself. I trust I lecture here not for the mere consideration of money, but for the purpose of instructing the rising generation of medical practitioners; of refuting, to the best of my abilities, the numerous errors and absurdities which prevail in medicine; and of establishing the truth. If any gentleman were present whose wish is solely to pass through the accustomed forms, in order to attain the mere pecuniary advantages of our profession, I would intreat him not to attend these lectures at all. But with respect to those gentlemen who intend to devote their attention to this important subject on the principle of public utility—who take a liberal and honourable view of the purposes and advantages of the practice of medicine—I shall feel an interest in their welfare and prosperity, which will, I trust, be only equalled by their own.

I must here be allowed to remark that you, as students, have duties

to perform which are as responsible as mine. No man can become a good practitioner by merely attending lectures. He must see disease in the miserable and comfortless hut of the poor, as well as visit the sick bed of those in more favourable situations in life. There is a noble study before you; and if you be not diligent, not only will the hopes of your relations be disappointed, but the safety of your patients will be endangered. Humanly speaking, the issues of life and death will be in your hands. The practice of medicine is benevolent and beneficent in its object; it is like the attribute of mercy, which

> "——— is twice bless'd;
> It blesseth him that gives, and him that takes."

The present age is favourable to every species of improvement. The darkness and thick clouds of ignorance are well nigh passed away and dispersed; and we live under the first general dawn of the human mind. There are yet magnificent discoveries to be made; the field is extensive, and displayed before you; the volume of nature is open, and will amply repay the most diligent research.

LECTURE II.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

GENERAL OBSERVATIONS.—I. EXTERNAL SYSTEM.

1. *Temperature.*

In my last Lecture I expressed my intention to divide the course into three parts, in the *first* of which I shall consider the general method of investigating disorder and disease, or the maladies which affect the human body. In the *second* part I shall consider the method of ascertaining, of preventing, and of managing, the first class of those maladies, namely, acute and sub-acute affections; and then, in the *third* part, I shall point out the proper method of investigating, of preventing, and of managing, the second class, comprehending the chronic affections.

I shall commence these with the consideration of the general method of investigating human maladies. This part of the subject requires to be subdivided into several parts: for example, it will be proper to consider—

I. Health;
II. Predisposition;
III. The Remote Occasions;
IV. Disorders; and,
V. Diseases.

I. Health claims to be considered. The body is made up of many systems, which perform different offices; and these various functions require to be arranged, and they may be called—

1. The Mechanical functions; 2. The Chemical functions; and, 3. The Vital functions.

1. The Mechanical functions are principally displayed in the heart and vascular system.

2. The Chemical functions are chiefly observed in the fluids which are circulating in the vascular system.

3. The Vital functions are chiefly seen in the nervous system, in the sensibility and contractility of the body.

All these functions bear such a mutual relation to each other, that when one is disordered it is very apt to disturb all the others. In fact, health is nothing more than the harmony of all these functions. But this harmony of function implies an integrity of structure, whether that structure be solid or fluid, since the functions are but the result of structures or organs.

Yet even if there be this harmony of function, Health is but a relative term.

1st. It is relative in one individual compared with the same individual at different ages. Compare a person in infancy with the same person in middle age; and again compare him in middle age with himself in extreme old age. You are aware that many physiologists believe that all parts of the body are undergoing a constant change; and probably this opinion has been carried to too great a length; for it has been thought that the human body, like an old ship, is so constantly undergoing a renovation in part, that in a few years no part of the original structure is left; and on this assumption an ancient philosopher founded an argument in favour of the immateriality of the mind.

2d. Health is relative in one compared with another individual. One individual is robust, another weak. One, a well-fed London servant for instance, tells you that he is in good health; but when you look at him, you see that he is remarkably florid in his countenance, and if blood be abstracted from him at this time, it will exhibit a superabundance of the red particles. Another, a puny and ill-fed pauper of the same metropolis, tells you that he is in good health; but you see that, contrary to the last individual, he is remarkably pale, and his blood, when drawn, indicates a deficiency of the red particles. One displays a general excess of blood—a general repletion or plethora, while another displays a general deficiency of blood; one individual is remarkably torpid, while another is remarkably sensible; and yet all these persons will assert that they are in perfect health. Health is modified by habit and climate. The rete mucosum of the negro being darker, his skin is not so easily blistered as that of an European. The negro requires also larger quantities than the European of particular medicines, in order to produce the usual effects, as tartarized antimony, opium, &c. If we examine the subject minutely, we shall find that we may refer these circumstances to different parts; and hence we must not take a mere general view of the subject, but we must investigate the health of the different organs—and this I shall endeavour to do in these lectures.

II. Predisposition seems to be intermediate between health and

disorder or disease; it is, in fact, the tendency or liability to disorder or disease, and exists very remarkably in certain individuals.

Predisposition admits of four subdivisions. It is

1. Hereditary; that is, a tendency or liability to this or that affection in this or that organ occurs in several members of the same family. And so true is this, that if we investigate the affections of different families, we shall find that in some families affections of the head prevail; in others affections of the lungs prevail; in others affections of the viscera of the abdomen prevail.

Predisposition is

2. Ætal; that is, connected with the age of the individual. It is well known that certain affections prevail most in infancy, that others are most prevalent about the period of puberty, that others occur most in middle life, and others in extreme old age; and all these differences are referrible to changes which the organs undergo at the different periods of life. Hereditary predisposition is

3. Sexual. There are affections which appertain peculiarly to males, and others to females, from the difference of organization of the sexes. It is

4. Acquired; and, as I shall have occasion to show, it is acquired by a number of agents, which operate either externally or internally upon the body. A disorder or disease once affects the body, and having been removed, leaves behind some weak part, some latent fault, which, though not seen under the tranquil state of the body, becomes disorder or disease when the body receives a shock. The weak part sustains all the injury when any remote occasion operates on the body. And next let us consider

III. The Remote Occasions. The remote occasion is that which produces disorder or disease. It has been called the remote cause very commonly. The ancient authors described the remote causes as either predisposing or exciting causes; and they consider—

1. The Predisposing causes, as those which give a tendency or liability to disorder or disease.

2. The Exciting causes, as those which induce the affection, whether it be disorder or disease. And, besides these remote causes, they have what has been commonly called

3. The Proximate cause, which they say is that which being present occasions the disease, which being changed changes the disease, and which being removed removes the disease. In plain English it can be nothing but the disease itself. I shall not, therefore, make use of the term "Proximate Cause," but I shall substitute for it the term "Patho-

logical Condition;" and for the term "Remote Cause," I shall substitute the term "Remote Occasion;" and thus, as the word "Cause" is very unphilosophically used, I shall get rid of it altogether.

We must refer, then, to the various agents or Remote Occasions, which induce disorder or disease: and they are either Common or Peculiar.

1. The Common Occasions are the common or ordinary agents of nature. The temperature of the atmosphere, the moisture of the atmosphere (or, to speak more precisely, the dryness or dampness of the atmosphere), diets, drinks, mental emotions, habits, &c., are all Common Occasions.

2. The Peculiar are distinguished from the Common Occasions by some peculiarity found in their effects, and which is not to be found in those of the Common Occasions. Thus, for example, if I am asked what Malaria, chemically speaking, is, I must confess that I do not know; but the effects of Malaria are peculiar; and hence I infer that it is a Peculiar occasion or agent. By very careful and very minute investigation we might perhaps ascertain how, and under what precise circumstances, it is that this poisonous state of air is produced. Some facts render it almost certain that it is formed by some influence between the earth and the air; and, perhaps, I say, by careful investigation it might be found what are the precise circumstances under which, and what is the precise manner in which, it is formed; and thus its formation or effects might be prevented.

As Peculiar Occasions, we may mention also certain other states of the atmosphere: Celsus calls them "Tempestates;" Sydenham calls them "Constitutions;" and they are known only by their effects. Upon this principle it is that whole districts, a whole country, or many countries, may be affected in a particular manner. Epidemic catarrh, for example, will prevail in one or more countries to a very great extent, the peculiar effects being the result of something which is added to the common constitution of the atmosphere.

Putrid matter introduced into the human body produces peculiar effects. For instance, a student of anatomy labours very hard, his skin becomes faded, his strength begins to fail, and in this state he punctures his finger with the point of a knife which has just been in contact with putrid matter; irritation of the wound occurs, the absorbents become affected, the glands in the axilla become inflamed, and the individual has an attack of disease, attended by very peculiar symptoms,—by symptoms so peculiar as fully to justify the opinion that something has been absorbed which taints the whole mass of the blood. And experiments prove the same thing; for it has been found that peculiar effects follow

the introduction of putrid animal or other matter under the skin in the inferior animals. I think that effluvia floating in the atmosphere taint the blood and sometimes produce low fever, or some slow chronic disease.

There are also certain Human Contagions which produce peculiar effects, such as the poison of small-pox, of scarlet fever, of measles, &c. But we know nothing of the production of human contagions, that is, of their generation *de novo*. Peculiar effects are also produced by certain animal poisons, of which the saliva of a rabid dog may serve as an example.

So also the vegetable poisons (for example, the narcotic vegetables) produce peculiar effects. Certain mineral poisons produce peculiar effects, as some preparations of arsenic and mercury.

All these then are Peculiar Agents, and they all produce peculiar effects, by which their operation may be known, if the subject be minutely and carefully investigated.

The body, then, being thus predisposed, is obnoxious to the influence of all these agents or Occasions of disorder or disease, against some of which we are warned by instinct, while observation and experience teach us to avoid others. But we cannot avoid them all, and hence they produce their influence on the body, which they affect in one of two ways, that is, either by Disorder or Disease.

IV. Disorder is of four kinds. It consists—

1. In some error in the solids. Of this we have a remarkable example in the heart, the action of which may be diminished, or it may be increased. It is very remarkably diminished by those agents which act as depressants; and this diminution of the heart's action produces a corresponding influence on all the organs of the body. And so also when the heart's action is preternaturally increased, a corresponding disturbance of the functions of other organs frequently is produced. Disorder may consist—

2. In some irregularity in the distribution of the fluids. We have numerous examples of this. In some there is an error in the distribution of the blood: thus a deficiency of blood shall exist in one part, while in another part there is an overplus of blood. Many instances of this kind exist in the different forms of inflammation. Heat may also be considered to be a fluid; and there are many instances of irregularity in its distribution through the body. And the probability is, too, that we have many examples of an irregularity in the distribution of what is called the nervous influence. Experiments which have been made, and facts which have been observed, seem clearly to indicate that there

is such a thing as the nervous influence or nervous fluid, and that it is liable to irregularities of distribution, as I shall have occasion hereafter to prove by a reference to facts. Disorder may be said to consist—

3. In some change in the quality of the blood. An individual, for example, is kept for a long time upon dry salt provisions, and the consequence is, that the whole mass of blood is tainted, and there comes on an attack of scurvy. If inflammation of the lining of the air-passages occur, and, in consequence, a superabundance of mucus be poured out upon the bronchial lining, the whole blood becomes changed, from the secretion preventing the blood undergoing that change which in health takes place in it there; and a dark blood circulating produces, in many cases, as much influence on the brain as a full dose of opium. Disorder may consist—

4. In some change in the quality of the secretions of the blood. Certain secretions take place in health; but the animal heat becomes higher than natural, the heart's action is increased, the pulse becomes quicker than natural,—and then the secretions become changed. The secretion of the tongue becomes changed, the secretion of the bowels becomes changed, the secretion of the kidneys becomes changed, and sometimes these secretions in their turn become sources of irritation. The secretion of the intestines becoming changed may irritate the lining membrane of the intestines, and the secretion of the kidneys may irritate the kidneys or the urinary passages; and at length the consequence may be an attack of disease. This leads me, however, to observe that—

V. Disease consists,—not in some error in the solids of the body; not in some irregularity in the distribution of the fluids; not in some change in the quality of the blood, or of the secretions; but—

1. In something being superadded to, or taken away from, the natural structure.

There are certain ordinary habits of health; for what we call Nature is nothing but a series of habits established by the Deity in the human body. Disorder may be said to be a deviation from those habits; and there is in the human body always a natural tendency to return to those habits if all opposing circumstances be removed; and, therefore, in many instances, by what are called the natural efforts alone, if the cause be removed,—or at least by very mild treatment, disorder will be remedied. But not so with Disease, which is far more serious; for it consists, as I have already observed; in something being superadded to, or taken from, the natural structure. Though we can repair disorder of function as we can repair a machine, yet we cannot repair disease of structure as we can a machine which has some fault in its structure.

Disorder may exist without disease; it may exist independent of any alteration of structure. But disease hardly ever exists without disorder. If something be superadded to, or taken away from, the natural structure, disorder is at length linked with the disease, not always in the commencement, but almost always in its progress.

Therefore, on the one hand, disorder often produces disease, while, on the other hand, disease often produces disorder.

It is likewise to be observed that there are certain Evidences of disorder or disease. Some of this evidence is rather *circumstantial;* and some of it is rather *direct.*

1. The Symptoms are the *circumstantial* evidence of disorder or disease.

2. The appearances on dissection, or the Morbid Anatomy, afford the more *direct* evidence of disorder or disease.

By means of this evidence, direct and circumstantial, we arrive at the secrets of nature. By carefully noting the symptoms during life, and by making minute, very minute, examination of the organs of the body after death, we come, in a great number of instances, at the cause of death.

The symptoms, then, take place as the evidence of disorder or disease. You must not mistake the nature of the symptoms. They are merely the external signs (as clouds are the signs of thunder or rain—but are neither the one nor the other), but they are not the thing signified. The thing signified is to be inferred, however, from the more circumstantial evidence of the symptoms; and ascertained, if possible, from the more direct evidence of the morbid appearances as presented in the examination after death. It is, in fact, an induction.

The evidence of disorder or disease consisting of the symptoms and appearances, is, therefore, external and internal; and for the sake of distinctness, it may be arranged under four heads:—

1. Some change manifested on the surface of the body.
2. Some external or internal uneasy sensation or feeling.
3. Some impeded function of one or other part of the body.
4. Some morbid alteration revealed by examination after death.

If you wish to prosecute Pathology satisfactorily, if you wish to discharge aright the important and sacred duties which you owe to society, you must not be content with the superficial view of the subject contained in nosological arrangements, but you must endeavour to penetrate into the secrets of nature—connecting the internal with the external evidences—so as to get at the precise condition upon which the symptoms and results have depended. In this, as I have before observed, consists

the great difference between ancient and modern physic; and hence the writings of the old authors are filled by idle conjectures and by mere external pathology.

The only mode of removing any doubt which may exist is, in the majority of cases, by an examination of the morbid appearances after death.

Physic may be compared to Navigation. The ancient navigators merely coasted round an island, without daring to lose sight of its shores —and the views and notions of the ancient physicians were equally confined; but the moderns have ventured out to sea, and, guided by the compass and the chart of observation and experience, have accomplished many things which had been hitherto untried. Modern medicine, equally with modern navigation, has been improved; its discoveries have been numerous and valuable, and have led towards certain general principles.

For the sake of convenience of arrangement, the human body requires to be separated into various artificial systems; and I shall therefore use the following division—

I. The more External System, comprehending the cutaneous system, the cellular system, the synovial system, the fibrous system, the osseous system.
II. The Nervous and Muscular Systems.
III. The Respiratory System.
IV. The Sanguiferous System.
V. The Concoctive and Absorbent Systems.
VI. The Urinary System.
VII. The Sexual System.

I shall consider, as I advance, the connexion of these systems with each other; and, in speaking of—

I. THE MORE EXTERNAL SYSTEM,

I may observe, that a great many important facts, and, by consequence, a great many important inferences, are to be derived from the survey of the surface of the body. It will be convenient to arrange the subject under several heads.

1. The Temperature of the surface of the body is very important, and requires attention in the investigation of disorder and disease. It is a very curious fact, that the temperature, while in health, is the same under all climates, ranging from 96° to 98° Fahr. The degree of temperature of the surface differs sensibly, however, at different ages. The temperature

of an infant is generally lower than that of an individual at twenty-one years of age; and, at seventy years of age, the surface of the body is generally cooler than at twenty-one, or than at forty. Some individuals have naturally a higher, and so also some have naturally a lower, degree of heat on the surface than others. It is a circumstance very essential to be recollected, that infants and old persons have less power of preserving the animal heat than persons in the middle period of life. The same observation applies also to convalescents, who have been weakened by a protracted disorder or disease, or by fasting or by excessive evacuations: they have very little power of preserving the temperature of the body. This then is a very important subject, and one upon a knowledge of, and an attention to which, the salvation of infants and old persons very much depends. For example:—

A nurse carries *an infant* out very lightly clothed on a very cold day; she stands in the corner of a street—a blast of cold air strikes the infant—it becomes chilled, and either dies of congestion in the brain, or of inflammation of the brain or of the bronchial lining.

An *old person* under similar circumstances is chilled, and falls down suddenly and dies, either of an attack of apoplexy or of congestive fever. If you refer to the newspapers you will find that a great many old persons die, in intensely cold weather, very suddenly. These effects might in a great measure be prevented, in infants and very old persons, by very warm clothing, and by avoiding exposure to a very low degree of temperature. Numbers of old individuals might avoid attacks of this kind, and live comfortably through the winter, by being covered with fleecy hosiery.

Very often a *convalescent* is chilled and dies in the same way, either of congestive or of inflammatory fever. A convalescent, in a very weak state, for instance, gets up on a very cold day, and, on account of his weakness, he is less able to retain the animal heat than usual, and is consequently more easily affected by a low temperature than usual; he is chilled, and dies either immediately or after some time from the results of the chill.

The Temperature may be affected in various ways.

1st. There may be a *local deficiency, or a local excess, of the animal heat;* and it is very important to take this into account. First, of—

a. Local excess. Suppose you were called in to see a young child, one of the first things you would do would be to feel the heat of the hands. An infant, when in health, almost always has cool hands. In the febrile affections of infancy you will almost invariably find that the

palms of the hands are not cool as in health, but are hotter than natural. When there is a local excess of heat on other parts of the surface of the body, you may infer that something is wrong. The integuments of the head are hotter than natural under inflammation of the brain or of its membranes. The same very often takes place over the thorax: a local excess of heat about the integuments of the chest generally attends an attack of inflammation of the pleura. The same is very remarkably the case in inflammation of the serous and mucous membranes of the stomach and intestines. If the inflammation be acute or sub-acute in the serous or mucous membrane of the stomach, the integuments over the epigastrium will be hotter than natural: there is a pungency of heat, almost as if the part were too hot for the fingers to touch. The same takes place over the other parts of the abdomen when the intestines are inflamed, either acutely or sub-acutely, either in their mucous or serous membranes. So that from this local excess of heat you will be able to draw correct inferences, if you connect it with the concomitant circumstances, after further investigation. When erysipelatous inflammation takes place in the skin the heat is higher than natural; and the same when inflammation of the cellular membrane takes place, as in phlegmon; for then the skin about the part is hotter than natural. Also, if the veins of a limb be inflamed, as in Phlegmasia Dolens or the painful white swelling of the limb usually occurring in the puerperal state, the heat in the thigh of the affected side will be found to be higher than in that of the opposite side. If the heat be higher than natural about a joint, it will be found that some inflammation exists about the synovial or fibrous membranes there.

b. Sometimes one part of the body is hotter than natural, while at the same time another part is cooler than natural. In inflammation of the brain the integuments of the head are often very hot, while the feet are very cold; and, by decreasing the heat of the one and increasing that of the other, much benefit may be rendered.

c. Sometimes there are sudden changes of temperature in particular parts. This occurs sometimes in Gout and in Rheumatism. This is almost always the case in those instances in which the stomach is simultaneously affected. There are translations of heat to the different parts. In Gout, for example, by diminishing the temperature of the wrist and increasing that of the great toe, the attack may be translated from the one to the other. This circumstance particularly requires to be attended to, lest the attack be translated to one or other of the vital organs.

d. There may be a local deficiency of temperature. In affections of the stomach, and in those of the head, the hands and the feet are very

apt to be cold; and when, therefore, you see this indication, make further investigation to find out whether or not any disorder of function exist either in the head or stomach.

2d. The *deficiency or excess of heat* may be *general*, instead of local.

a. In most febrile affections, whether they arise from common or from peculiar occasions, it happens that the temperature of the whole surface of the body is higher than natural,—there is a general excess of heat on the surface. When the febrile affection is fully developed the heat is universally increased over the surface. It is most desirable that the state of what has been called Fever should be understood. This increased development of heat on the surface assumes the perfect form of fever till it reach a certain point or acmé; and then it begins to decline, which is another very important circumstance.

b. The decline of the heat is, in some cases, favourable; but in others it announces approaching death. For instance, after an attack of inflammation of the intestines, the heat begins to fall, first in the extremities and afterwards in the trunk: and this is a very suspicious indication, and requires that you should attend to the concomitant circumstances. There may be, instead of a local, a

c. General deficiency of heat on the surface. In the onset of all those affections which arise from depressing agents, there is this general deficiency of heat; but unless you take into account the circumstances connected with it, you may be deceived. The skin may be universally cold, and yet, the individual may be in health,—the blood being so equally distributed through the veins that no part is disturbed. But if the universal deficiency of heat be attended by an accumulation of blood in the veins of any one organ of vital importance, so as to interrupt the functions of that organ, then it becomes one of the most serious affections which we have to encounter. In congestive fever the universal deficiency of heat on the surface is one of the most alarming symptoms which I know of. In like manner also there are many chronic affections of the skin and internal mucous membranes, which are attended by a deficiency of heat. The skin seldom has its functions affected without some other part participating in the disturbance; and that other part generally is some portion of the internal mucous membranes. This skin and the mucous membranes perform similar functions, and are modifications of the same structure. A great many chronic diseases occur,—for example, amongst medical men who work very hard,—which are at first indicated by a cool surface; and the same in many children who are badly clothed, &c.;—and this state of skin goes on for a length of time. A warm bath will re-

store the skin to its natural state and functions. I am sure that I have saved many individuals by ordering a warm bath at the precise point when some chronic affection has been insidiously stealing on. But these remarks are still more applicable to acute and sub-acute affections. Many, a great many, acute and sub-acute affections might be prevented by the use of a warm bath. The skin is cold, often for hours before the malady is developed; and the attack comes on in consequence of the superabundance of blood internally and the deficiency of blood externally. If a medical man were called in before occurrence of serious symptoms, when the skin was universally cold, by recommending the use of a hot bath at the temperature of about 100° he might prevent the attack of either a chronic or an acute affection. The efficacy of a warm bath, then, is very great; for persons will, I repeat, go about for hours with a cold skin before an acute attack comes on—or even for weeks and months before a chronic disease is established.

It is surprising that baths are not more numerous in London than they are. In Paris there are about a hundred and fifty baths; and persons are constantly going from house to house with hot water and portable baths: on the contrary, there are not more than a dozen baths in London. It is very surprising that in this country, where individuals are daily liable to be chilled, a mode of preventing affections so easy should not be in more general use. I am now in the habit of recommending all persons in the middle and upper ranks of society to have such a bath; and I advise you to recommend mothers to accustom their children to a warm bath from a very early period; for in many affections of children requiring a warm bath, it happens that immense mischief is done by children being frightened at it; whereas, if they be early accustomed to it, they will be pleased with it.

You will see then that the subject of the temperature of the surface is of much importance.

LECTURE III.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

EXTERNAL SYSTEM (CONTINUED).

2. *Colour.* 3. *Moisture and Dryness.* 4. *Texture.* 5. *Superadded Appearances.*

In the last Lecture I proposed to consider the investigation of the more External system, and I made some remarks on the temperature of the surface. Another part of the external system which it is requisite to attend to is—

2. The Colour of the skin. And it will be proper, in order to observing the deviations, to take into account—

1st. *The natural colour* of the skin, which, like the natural temperature, varies at different periods of life. In infants the skin is remarkably blanched and nearly white, but the hands, fingers, and toes are pink; and every old nurse knows that in infancy this pink colour of those parts is the sign of health. There is also in children, in health, a beautiful bloom on the cheek,—provided they be put to bed early, be properly fed and properly clothed, and be placed in a fresh atmosphere. In the middle period of life the skin has a different hue from that which it had in childhood; and again in old age it has a different hue from either. It is impossible accurately to describe these various hues in words; but they are to be readily detected and distinguished by attentive observation. I advise you to cultivate the faculty of observation by the study of colours and faces, and by drawing. An individual, for example, who is in the habit of sketching faces, will detect variations in different countenances which are so slight that others would have overlooked them. The study of drawing is of great use to a medical man, and so is that of music. Plato has been ridiculed for supposing music to be a part of the education of a philosopher; but, to a medical man, it will be extremely advantageous, as for instance, in the employment of Laennec's instrument—the stethoscope. One medical friend of mine has acquired great precision in the use of this

instrument, and, having a musical ear, he acquired it much more rapidly than I have done.

The tunica conjunctiva of the eye may also be considered as a part of the skin, and it is important to attend to its natural colour. In infants it is, in health, of a bluish white colour. Contrast its colour in infancy with its colour in the adult, and you will see the difference.

Under various morbid affections great changes take place, in consequence, in the colour of the surface. Under some diseases—

2d. *The Conjunctiva* undergoes a remarkable change in appearance, as *in pulmonary consumption.* I observed the eye of a gentleman, and the moment I saw it I made up my mind that he was consumptive; and then I investigated the case carefully, and found that my opinion was correct. The eye becomes in these cases of a dead white,—a hue so peculiar, that if you contrast it with the eye of health the change will be very obvious. It is difficult to describe, but it is somewhat—if you could strip it of its brightness—like the inside of the shell of an oyster.

Other changes of colour occur on the surface.

3d. *Paleness* of the surface of the body attends almost all great mental or bodily shocks. If an individual undergo an operation, or fall from a height, or receive any distressing news, he becomes remarkably pale; and this universal pallidity is sometimes attended by great internal disorder: and an accident, or an operation, or the communication of some disagreeable news, may thus prove fatal, by the blood oppressing, and, as it were, suffocating the functions of some particular organ. In this excessive paleness, sometimes—nay, always, —there is a deficiency of blood in the circulation through the skin, with an accumulation of blood internally. Paleness of the skin attends many Acute affections, as Congestive Fever: it accompanies also many Chronic affections. A change in the colour of the skin is one of the first symptoms of what is called a break-up of the general health; as you may observe during the winter, in the lecture-room, especially after an individual has been dissecting a great deal. You will see a similar change in children, in London, who are kept up late at night, and who are improperly fed. When you observe this change you may be quite sure that there is something wrong, and most probably in the internal mucous membranes, which are generally affected simultaneously with the skin. In this way a great many cases of what are called bilious affections occur, if my observations on this subject be correct.

It becomes, then, highly necessary to attend to the colour of the

skin. In health there is a remarkable freshness of colour, which undergoes a change when any disorder or disease exists. Often it happens that there is—

4th. A very *peculiar pallidity*,—an *alabaster whiteness*,—in individuals, and this always indicates something very serious. Sometimes it arises from repeated abstraction of blood by the medical practitioner; sometimes it occurs from hemorrhage from the bowels; sometimes from excessive uterine hemorrhage. Whenever, then, you observe this change you should take great pains to ascertain from what source it has its origin.

5th. If the skin be *white, with great emaciation, and a blue varicose vein* be seen running here and there, ramifying over the surface like the veins in white marble, you may be certain that something is very seriously wrong. This appearance in the skin of phthisical patients has been described with anatomical accuracy by a poet, who says of a female—

> " Her brow was fair, but very pale,
> And looked like stainless marble; a touch methought would soil
> Its whiteness. On her temple, one blue vein
> Ran like a tendril; one through her shadowy hand
> Branched like the fibre of a leaf away."

If the individual have a tongue with a vividly red tip, you will generally find that there is some disease in the mesenteric glands;—if he have a cough probably there are tubercles in the lungs;—and so forth. I repeat, therefore, that you must endeavour to ascertain the precise condition by the means which I shall afterwards point out. Sometimes—

6th. A *tawny condition* of the skin is one of the first changes observed in disorder or disease; as in affections of the liver. Sometimes when the liver is inflamed there is a dark line observed under each eye. There are also other conditions which mark a disordered state of the liver; for example, in some instances the skin looks like tallow, or putty, in colour. This hue of the skin often attends the grey granulated state of the liver accompanied by a varicose state of the vena portæ.

7th. The *yellow colour* of the skin is sometimes an indication of some obstruction to the flow of bile under which the skin becomes jaundiced. And how is this state known?—The urine is tinged with bile, so as to look like water in which saffron has been infused; or, if there be much bile, it looks like porter: the stools at the same time display a deficiency of bile and are clay-coloured. Sometimes there may be seen—

8th. A *lemon colour* of the skin; and, as far as I know, this is al-

ways a mortal sign. It occurs shortly before death. The skin, for example, after fever, becomes of a lemon hue, and you might, perhaps, if you were careless, take it for a jaundiced appearance; but where this lemon hue exists, the urine is remarkably pale—it is not tinged with bile—and if a blister be raised in this state, the serum will not be tinged with bile, as in jaundice. It is accompanied also by a sickly-faint cadaverous odour of the breath, which, combined with this hue, is a most mortal sign.

9th. Another very remarkable colour of the skin is almost invariably accompanied by some internal disease; very often by tubercles in the lungs or elsewhere. It consists of *a willow shade,—a yellowish white colour.*

Another colour of the skin is—

10th. *Paleness with lividity.* The colour of the face is pale, mingled with a leaden hue. In all cases of this kind the lip is purple, violet, or leaden, in its hue, indicating some affection of the respiratory organs,—mostly a change in the secretion of the bronchial lining preventing the oxygenization or the decarbonization of the blood, so that black blood circulates in the arterial system. Or, instead of paleness with lividity, the face becomes of a plum colour, especially in those persons whose face is naturally of a red colour in health, from some great disorder in the lungs or the bronchial lining, preventing the change of the blood which takes place in health. Arterial blood circulates through the surface of the cheek in health, rendering it vividly red; and no wonder then, that when comparatively venous blood circulates through the arteries it is plum-coloured. In individuals then with disease of the lungs, we see those whose countenances are pale in health, pale with lividity; but the faces of those who have naturally a vividly red colour are plum-coloured.

This paleness with lividity attends also affections of the heart. If there be a purple lividity on the cheek and hands, or any of the varieties of this colour which I have mentioned, recollect that it may exist, without any disease of the chest, from mere stagnation of the blood; that is, from the blood circulating slowly through the superficial vessels. It is a very curious circumstance, that arterial blood, when it circulates slowly, very soon loses the arterial, and assumes the venous character. But there is a different state of skin, as to colour, which may exist.

11th. It is a *preternatural redness*, and this attends most fevers when fully developed. The heart's action is increased in force and frequency, and the surface is more red than natural.

This redness is most conspicuous generally in the face. Sometimes it is circumscribed, on a cheek like alabaster,—as in the flushes of hectic fever. Sometimes the redness is very peculiar. In the beginning of small-pox, a small red spot is seen, which is succeeded by a vesicle having a red base round it. In measles the rash appears in small distinct elevations on the face, and the colour of the rash is generally, but not universally, darker than the efflorescence in scarlet fever. In scarlet fever there is a diffused blush. In erysipelas the appearance is either red like the shell of a boiled lobster, or of a copper colour. In inflammation of the cellular membrane there is a more vividly red colour.

The next part of the External System which requires to be noticed, is—

3. The state of Moisture and Dryness of the skin. These are naturally different at different ages and in different individuals.

1st. If the *moisture* of the surface be *excessive*, it is an indication of something wrong; therefore, whenever very copious perspirations occur, it is desirable to ascertain the reason. For example, an individual labouring under some violent irritation of the urinary organs has a shivering fit succeeded by a hot fit, and then by copious perspiration. Now a profuse perspiration of this kind, together with some local uneasy sensation, would lead you to infer that there was some urinary irritation. In abscesses in the internal organs copious perspirations are not uncommon; and it is a very suspicious circumstance when a hot fit comes on at a certain period of the day, and is succeeded by a sweating fit, provided there be no ague, and that there be no irritation of the urinary organs. Sometimes excessive moisture of the surface depends upon great mental exertions; for instance, in medical men who labour very hard, copious perspirations are very apt to occur; and this state is best removed by getting rid of the mental worry. A constant copious perspiration is excited in some persons, especially ladies, by sitting in a high temperature. I have saved many individuals from a tabid state by reducing the temperature of their sitting-rooms. A great many ladies sit in apartments the temperature of which is so high as to do a great deal of mischief. Remember that in warm weather the skin is more moist than in cold weather, and you must therefore take into account the season of the year, and also the state of the body.

2d. There very often is a *deficiency of moisture* on the surface; and this state attends almost all fevers, especially those arising from peculiar occasions, as Typhus Fever, &c. This is an apparent dryness; for we have assumed a deficiency of the insensible perspiration to exist at

this time, though perhaps it may in reality be increased, only that the apparently dry skin is produced by its passing off very rapidly. Many patients, who are kept quite quiet in febrile affections, though they take a sufficient quantity of food and have but little evacuation by stool or urine, yet waste rapidly; and how is this? It must be from some evacuation from the lungs or skin, or both. This is a point the explanation of which requires to be more fully developed by experience. In the beginning of many of these cases nothing answers better than a warm bath; but in the middle or towards the close of these fevers, the fatigue of a warm bath may destroy the patient's life.

In many cases of chronic affections, one of the first changes to be observed is a preternatural dryness of the skin. When the mucous membrane of the stomach, of the large or small intestines, the liver, or the kidney, become disturbed, there most frequently is an accompanying dryness of the skin; and the probability is that, when the skin is preternaturally dry, and the insensible perspiration is impeded, more work is thrown on the internal mucous membranes, especially that of the urinary organs. The function of the kidney is very closely allied to that of the skin; for, when either is decreased, the other is generally proportionally increased. I am quite confident that Diabetes occurs in this way;—that the first change is in the skin; that the internal mucous membranes then become affected, and their functions disturbed; and that ultimately the diabetic state occurs. In many cases of what has been called Dyspepsia, if you bring the skin into a good condition as to moisture, &c., the patient will get into a perfectly good state of health. A horse hardly ever has good health unless he is properly groomed; and cows in Switzerland, though they are tethered, do remarkably well by being groomed. If we paid half the attention to grooming our own skins which we devote to that of our horses, I believe we should do ourselves a great deal of good, for any impediment to the function of the skin has very great influence on the body.

The next circumstance to be observed in reference to the External System is—

4. The Texture of the skin.

1st. The skin may be, and very often is, remarkably soft and remarkably delicate; it has *softness and tenuity* combined. This is especially obvious in infancy and through the period of childhood; but it becomes less so at the period of manhood, for in the adult age it becomes gradually stronger. In the middle age too it becomes somewhat more dry, and remarkably so in advanced age. We have no very definite account of the particular affections of the skin which occur at

different ages; and yet this is a subject with which medical men should be perfectly well acquainted. Where the skin is distinguished by softness and tenuity, you mostly find that there is in such individuals a predisposition to inflammation of the mucous membrane of the air passages, the mucous membrane of the intestinal canal, or the mucous membrane of the urinary organs; because the internal mucous membranes are nothing more than a modification of the structure of the skin, which being delicate, the mucous membranes are likewise delicate. Such individuals are also remarkably prone to tubercular diseases;—those, I mean, who have soft silken hands and also an almost transparency of complexion, are remarkably prone to a tubercular state of the cellular connecting membrane of the lungs, of the pleura, of the peritoneum, and to affections of the glandular system. Sometimes this softness with tenuity is hereditary, and prevails very remarkably in particular families.

2d. A contrary state of skin, which is to be noticed, is *thickness and harshness* of the skin. The softness with tenuity of the skin, to which I have alluded, may be compared to kid's leather, and the thickness and harshness of the skin may be compared to dog's leather. Individuals whose skin is thick and harsh, as well as those who have a softness and tenuity of skin, are prone to affections of the internal mucous membranes, and of the glandular system. Individuals, too, who have a thick harsh skin, have a lax muscle. It very often happens that, when the skin is thus thick and harsh, its functions become disturbed, probably from the diminution of insensible perspiration, by which additional work, as it were, is thrown on the internal mucous membranes. Wherever the mucous membranes are liable to repeated attacks of irritation, glandular disease is very apt to occur. Exceedingly few examples of disease, either of the external glandular system, or of the mesenteric glands, occur without some preceding affection of the mucous membranes.

Those individuals who have a soft delicate skin receive considerable benefit from the use of a cold bath, which gives tone to the skin. But it would be highly imprudent to begin with cold water at once; it is better to have it first of the heat of 96° or 98°, and to decrease the temperature gradually: you may diminish it one degree daily, till you have reduced it to 60°, and there stop. If there be any point between 96° or 98° and 60° after which the individual becomes chilly, that temperature ought not to be persevered in. By attending to this simple rule you may always know whether a warm bath or a cold bath agrees with an individual: if, after the use of it, he feels chilly and uncom-

fortable, it disagrees; but if, on the contrary, he becomes warm and comfortable, then you may be quite certain that it agrees. You may thus ascertain whether a bath is answering a beneficial purpose.

Again, those individuals who have a thick and harsh skin, derive considerable benefit from the use of a tepid bath occasionally, and soaping the skin. If this state of skin be neglected, they are very apt to have irritation of some portion of the mucous membranes. These individuals sometimes derive considerable advantage from cool bathing, but not cold bathing. They seldom bear to have the skin washed with water below the temperature of 50°; but from cool bathing, at a temperature of from 50° to 60°, they often derive great benefit. If the skin be furfuraceous, soaping, and afterwards friction with the flesh-brush, will be of great service.

3d. Under the head of the Texture of the skin, we may consider *relaxation* of the skin. After an attack of fever, for instance, an individual becomes universally relaxed, and the skin participates in the relaxation. Hence he may have copious perspirations at night, without any other obvious cause than that the skin is relaxed. In such cases a tepid bath, gradually reduced to a cool bath, will be of service, or sponging the surface. You must be careful about the clothing in these cases, so as, on the one hand, not to allow the surface to be chilled, and on the other, not to relax the skin by allowing them to wear fleecy hosiery. You must be careful, too, to regulate the clothing of the bed. If you allow a person to lie between many blankets, the skin becomes more and more relaxed. You must attend to the temperature of the apartments. I mentioned in my last lecture that many ladies injure their health very much by sitting in a too high temperature. If a person be in health, one of the best temperatures is between 50° and 60°; it seldom ought to be higher than 60° in a sitting room. Exercise in the open air, especially in a cold dry atmosphere, is another point to be attended to in cases where there is a relaxation of the skin. Either a moist cold atmosphere, or a moist warm atmosphere, relaxes the skin exceedingly; but if these individuals live in a warm dry atmosphere, or a cold dry atmosphere, they acquire considerable tone both of muscle and of skin. A change of weather has very great influence on the skin. An individual labours under a slight irritation of the stomach, or of some portion of the intestinal mucous membrane, and the skin is relaxed. The weather continues warm and moist, and let your treatment be what it will you cannot make any impression on the affection. But when the weather becomes dry, a remarkable difference occurs; for if the patient be properly clothed, the relaxation of the skin very

soon disappears. Only mark the difference of the appearance of the cheeks of an individual in a cold moist day and in a frosty day; and you will see in the latter how fresh he looks. There is no doubt in the world that persons who breathe a fresh atmosphere, who are constantly surrounded by oceans of air, acquire much more healthy conditions of the internal mucous membranes than others.

4th. While considering the Texture of the skin, we may also notice another condition which sometimes exists; I allude to that of *constriction of the skin.* In typhus fever, in small-pox, in measles, and in scarlet fever, during their progress and especially during their decline, the skin becomes remarkably furfuraceous. After the affection, whether it be typhus, whether it be small-pox, whether it be measles, or whether it be scarlet fever, the skin is remarkably constricted, though the disease has disappeared; and you are surprised, perhaps, to find that the individual still remains languid, and that digestion is imperfectly performed. And this continues as long as the skin remains constricted. In these cases you should put the patient into a tepid bath and get all the scurf off, so as to bring the skin into a healthy condition. You should soak the skin well in the water, and having soaped it, wash off the soap, and afterwards dry it thoroughly, rubbing it with a rough napkin, or using friction by means of a flesh-brush.

When a patient, convalescent either from typhus fever, from small-pox, from measles, or from scarlet fever, becomes affected by chronic inflammation of some portion of the internal mucous membranes, you will find that it often entirely arises from the extra work which is thrown on the mucous membranes, because the skin is so coated by scales that it cannot possibly perform its functions properly. A remarkable state of constriction of the skin attends inflammation of the mucous membrane of the intestines, especially of the small intestines, sometimes of the large intestines. In the progress of inflammation of the serous coat of the intestines the abdomen becomes rounder. But it almost always happens in inflammation of the mucous membrane of the intestines, especially that of the small intestines, that the abdomen in the progress of the affection becomes flatter and flatter, so that the abdominal integuments are drawn inwards towards the spine; they are drawn inwards so as to appear like so much withered tense parchment. In this case, if the individual having this remarkable constriction be not too much exhausted, a warm bath is often beneficial; but if he be very much exhausted, so that he will not bear a warm bath, then fomentations nicely used will give very great relief to this tense state of the abdomen.

Constriction about the joints also deserves your notice. Inflammation of the synovial membrane of a joint occurs, which you get rid of by the abstraction of blood and other means, but a constriction of the joint remains. The motion is in some degree impaired if not entirely lost; and if this be suffered to remain neglected the limb may be rendered useless. But if the limb be steeped daily (so as to relax the joint) in warm water, if friction be applied round the joint, and if the joint be exercised, if the surgeon or the patient make efforts to move it short of producing pain, the use of the limb and the motion of the joint may often be recovered. Attempts ought to be made, with firmness but not with violence, to save the joint if possible. It is in this way that quacks have often acquired very great credit. Some quacks have been remarkably successful in restoring the motion of joints when surgeons have failed; and regular surgeons now attend to this subject more, and avoid the evil effects which empirics often produce, by getting at the motion of the joint gradually; and in this way they often succeed completely in their object.

The next subject to be attended to in the survey of the External System is that of certain—

5. Superadded Appearances.

These are remarkably various and highly important. They may be classified as follows:—

1st. *Petechiæ.* A petechia is a little bloody point under the skin, irregular in shape. It is generally nothing more than an exudation of blood from the extremities of the capillary vessels. Now at first sight, if you only take into account the external pathology of the case, you might think the appearance of these petechiæ of no consequence. But it is necessary to take also into consideration the internal pathology. These petechiæ invariably occur in conjunction with inflammation of the mucous membrane of the bronchia. They generally occur, as you will find, in cases attended by fever; and I have hardly ever seen petechiæ in febrile cases, unless the fever has been combined with a bronchial affection. And it is not the bronchial affection from common cold, but that which arises from peculiar occasions—either from malaria or from the human contagions—which produces or is combined with these petechiæ. They hardly ever occur, except in typhus fever, and in some of the worst cases of small-pox, measles, and scarlet fever. Hence it will be obvious that the Diagnosis of petechiæ is of consequence. You should be able to distinguish petechiæ from flea-bites. I have been called in to see patients who have been covered, the practitioners have told me, with petechiæ; but I have often found, upon

examination, that they have been nothing more than flea-bites. This error is not much to be wondered at, if they be not accurately observed. When I was a young practitioner, I used to make the same mistake myself. But they may be distinguished if you attend carefully to some circumstances; namely, a petechia consists of a very minute point which is very irregular in its appearance. It varies in colour: sometimes it is very faint; sometimes more distinct; sometimes vividly red; sometimes purplish; sometimes dark red;—and the darker they are the worse. A flea-bite is a small point on the skin, which is perfectly round. It almost resembles a point that has been placed upon the skin by a pencil. It is a dark small circle, which is circumscribed; whereas a petechia is irregular. You find petechiæ, too, in situations where flea-bites are not often found; for example, about the gums, and sometimes upon the internal mucous membranes, and upon the serous membranes. I have seen petechiæ in the bowels.

The colour of petechiæ almost entirely depends upon the degree of the bronchial affection. If the bronchial affection be but slight, they are vividly red; if more serious, they are of a darker hue.

Petechiæ arise almost always, when they do exist, in persons who breathe a close atmosphere. They occur, for example, in persons who reside in cellars; while those persons who live in garrets, where there are plenty of broken panes and where there is a tolerable supply of fresh air, are hardly ever attacked by them.

If a person covered with petechiæ, lying in bed in a close apartment, be carried into a fresh atmosphere, it is surprising how rapidly they vanish. The petechiæ will, for example, often disappear entirely in the course of twenty-four hours.

But there is another form of petechiæ which occurs without fever. They are called *Petechiæ sine Febre.* But they are also dignified with a fine-sounding name, which is very important in the ears of the public—*Purpura Hemorrhagica.* But though these petechiæ appear without fever, yet you never see them without some previous change in the condition, either of the skin or of the internal mucous membranes. Sometimes you find that the mucous membrane of the air-passages is affected at the same time—at other times not. They seem to be produced through some disordered functions of the skin and mucous membranes, influencing the blood,—and perhaps influencing the solids, producing relaxation of the capillary vessels. It is very important to trace the connexion of these petechiæ; for if we prescribe for the mere bloody points, we shall do very little, if any, good.

Allied to these petechiæ is what practitioners call *ecchymosis.* I

have seen it with petechiæ. Sometimes it is diffused over a whole limb. I recollect I saw an old individual with these petechiæ sine febre —or, if we must have a fine name, purpura hemorrhagica—and there was an exudation of blood into the cellular connecting membrane of the lower extremity. This often looks like gangrene; but you may distinguish it from that condition by the yellow and bruised appearance which it has, and by the absence of the symptoms which precede gangrene. In sea scurvy there seems but a higher degree of the same thing, when the fluids and solids are tainted by living for a long time upon dried salt provisions.

Vibices or *stripes* are of the same nature: they are exudations of blood, in stripes, under the skin in different parts of the body.

Whenever you observe these exudations of blood on the surface, make a point of attending to the stools and urine. If the patient pass blood with the evacuations of fæces or urine—and especially from the bowels—if you treat the case harshly he is almost sure to die. Recollect, then, that whether the petechiæ occur with or without fever, if the patient at the same time pass blood by stool, if you adopt rough measures,—for example, if you use purgatives,—the case is almost certain to be fatal. But if you allow him to breathe fresh air; give him a moderate supply of lemon-juice; and allow him a fresh animal diet, with vegetables if there be no fever; and a very bland farinaceous diet if there be fever; you will generally find that the patient will do well. In some cases of this kind, bandaging the limbs and swathing the body is of very great use. A friend of mine saw several cases of petechiæ sine febre, occurring in individuals with an affection of the internal mucous membrane, in whom the whole mass of blood appeared to be changed: in the attempt to walk, these individuals sometimes died very suddenly. But when he adopted the plan of bandaging the limbs and swathing the body he found that they could easily walk with very little danger, the limbs being thus supported.

If a transudation of blood occur from the bowels, it becomes a point of very great importance to keep the patient in the recumbent posture. If you allow him to go about, it is very likely that he will have a sudden gush of blood, will faint, fall down, and die.

2d. The next kind of Superadded Appearance to the surface of the body deserving notice, is *eruptions*. You have a good specimen of this in small-pox. At first a small red point appears; and this, in a short time, is distended by a little transparent serum; and then it is changed into a pustule. This, then, shows its real character—that it is first a point, then a vesicle, and then a pustule. You should observe

also that there is a minute depression at the top of the vesicle, between the third and the sixth day.

3d. The next kind of Superadded Appearance is *rash.* Of this we have an example in measles, consisting of distinct points, especially over the face; almost like the red points of small-pox. But the difference is, that the point in measles never changes—it never becomes a pustule; and that the points run together over other parts of the body.

4th. The next kind of Superadded Appearance is the *efflorescence.* This differs from both the eruption and the rash. You have an example of it in scarlet fever, in which the efflorescence consists of a diffused redness resembling the shell of a boiled lobster; and this enables you to recognize it. You may distinguish efflorescence from rash in the face. In measles the points would be distinct on the face; but in efflorescence of scarlet fever the redness would be diffused.

If the colour of the efflorescence be much changed it generally is from a bronchial affection; and so in the eruption and rash. In small-pox if the bronchial affection be slight, the redness round the pustule will be vivid; but if severe, the colour will be purple. So you will have a vivid red rash in measles, and a vivid red efflorescence in scarlet fever, if the bronchial affection be slight; but if it be very severe, they will put on the purple or the copper hue. In Erysipelas a different kind of redness occurs. It is an efflorescence defined round its edge by an abrupt red line, like the red lines which mark the extent of different countries in a map.

5th. *Vesicles.* This appearance is seen in some forms of fever; in some of the worst cases of typhus fever a vesicle is observed, the size of a hazel-nut or less, distended with serum. Sometimes these vesicles occur about the feet and hands; but they seldom arise unless the affection be very severe.

In erysipelas these vesicles sometimes exist when it is not very dangerous; but they very often occur with the worst forms of erysipelas. Therefore you will see the propriety of attending to the accompanying circumstances.

When vesicles occur in gangrene with a purple skin, following inflammation, and attended by a sinking of the general strength, the case is very serious.

6th. Among other Superadded Appearances may be noticed *pimples.* These are little spots which may be seen about the face. Many individuals have red spots or pimples upon their faces; and if you pass your finger over them they feel as if little grains of sand had been

deposited in these places. These cases are sometimes very obstinate. They are seated in the mucous follicles, and they are more frequently met with in the face than elsewhere. Sometimes they exist as a primary disease of the skin. In other cases they occur in conjunction with affections of the stomach. It becomes a very important question whether these pimples ought to be removed. You can generally get rid of them by squeezing out their contents between the nails, and diligently dressing the part afterwards with the citrine ointment. But I have known other diseases follow the cure of these pimples; therefore, I repeat, it is very desirable to know whether they should be cured. I was led to these reflections by the following case:—I am now attending an individual who, after the cure of some of these spots on the face, began to have a short hacking cough, and, in fact, is now labouring under an attack of Phthisis Pulmonalis. I have seen many cases in which slight pimples on the skin being removed some very serious internal affection has followed: at any rate, it will be well to establish some counter-irritation; and a very good plan is to use a little of the ointment of tartarized antimony. For instance, if you rub two or three drachms (and three drachms is generally best) of the powdered tartarized antimony with three ounces of the cetaceous ointment, and rub a small portion of this on any part of the skin, it will bring out little pustules.

7th. *Scaly eruptions.* These often have great influence on the state of the internal mucous membranes; which being affected have also great influence on the state of the skin. For example, when the mucous membrane of the stomach is affected, these scaly eruptions of the skin will be aggravated; and, if the functions of the skin, on the contrary, be much disturbed, the affection of the stomach will be aggravated.

8th. Cutaneous affections occur in Syphilis; for instance, *tubercles* of a copper colour, or *papular elevations* of a copper colour. I am not certain whether this is an essential part of syphilis: for I have never seen them except where the general health has been broken up; and very nearly the same character is seen in other eruptions, in persons in whom there can be no suspicions of a syphilitic taint;—I except, perhaps, the copper colour. It may be, perhaps, that the peculiar copper hue is depending on some specific condition of the blood which is derived from the syphilis; for I have no doubt that the blood may remain tainted for many months. This is a point of very serious importance, and one which requires further investigation.

LECTURE IV.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

I.—EXTERNAL SYSTEM (concluded).

6. *Form.* 7. *Position.* 8. *Expression.*
Uneasy Sensations.—Impeded Functions.

In the two preceding Lectures I have considered the External System, with reference to—

1. Its Temperature;
2. Its Colour;
3. Its Moisture and Dryness;
4. Its Texture;
5. Its Superadded Appearances.

The next circumstance to be attended to in the examination of the External System, is—

6. The Form of the Body.

1st. The body may present a *fulness of form*, and this originate from various causes.

a. It may arise merely from *corpulency*,—from a deposition of fat in the cellular membrane; and then, if the individual adopt a regulated diet and take sufficient exercise, and if his habits be regular, it is very often of no great consequence.

An infant, in health, always becomes fat for the first two or three years of its life; and after that time it becomes more spare. Again, about the age of puberty individuals become more stout, especially females, from an increased deposit of fat.

b. This fulness of form may arise from an *effusion of fluid*—from a transudation of the serous part of the blood into the cellular connecting membrane—in short, from what is called Dropsy. When this is the case, it may be known from the circumstance of its pitting upon pressure; for example—if you press your finger upon the integuments and then raise it, an indentation or pit is left, and disappears gradually. You must remember, that dropsy is generally a symptom of something

being wrong in the interior part of the body, and, indeed, it is always an indication of some disorder or disease going on there; and you must examine the nature and extent of that disorder or disease.

c. Fulness of form may arise from *wind;* as sometimes occurs when a rib has been fractured.

When an instrument has passed through the pleura costalis and the pleura pulmonalis, the whole cellular membrane very often becomes distended with wind; and you should recollect that this fulness of form, which is the consequence of air escaping into the cellular connecting membrane from wounds of the thorax; has an emphysematous feel. This point is of great consequence in the diagnosis. When wind exists in the cellular connecting membrane, it is a certain sign that the pleura pulmonalis has been wounded; and if the case be improperly treated, the patient may lose his life: but if you treat it upon the common principles of avoiding and subduing inflammation the case will generally do well, if the chest be properly bandaged.

2d. The peculiarity in the surface of the body may consist, not in a preternatural fulness of the body, but in *wasting.* This always goes on more or less in fever; and, if when the fever subsides the wasting cease, it is of very little consequence: but if, not only during the progress of the acute symptoms, but day after day, week after week,—whether with or without fever,—the emaciation goes on, it is always a very alarming circumstance. If the emaciation remain, I repeat, after the attack of fever has left an individual, it is a certain sign of some insidious form of disease going on; it is one of the most sure indications of some serious affection of some internal and vital organ.

In children, with thin, spare arms and legs, and with a large round belly caused by the flatus which arises from the impaired functions of the stomach, you may be quite certain that something is going on wrong, especially if there be a faded appearance of the skin. Recollect, however, that all children may have fat extremities; but in health they have not all big bellies—and the same in adults.

But, instead of general emaciation, the wasting may be local; for instance, connected with a joint. An inflammation of the elbow joint occurs, and the patient, both from instinct and from the instructions of the surgeon, keeps it at rest while it continues painful; and the consequence is that the limb wastes. In these cases and in other examples of chronic affections of joints, you may very often prevent the wasting of the limb by passive exercise, and by gentle friction.

And in palsy it is very proper to recommend the patient to direct his mind to the limb and to make attempts to move it, by directing the

will to it. John Hunter observes the value of making such efforts; by which and by friction you will often prevent the limb wasting any further.

3d. The alteration of form may consist of *depressions* in certain parts.

Preternatural depressions existing on the head are very important. I could mention many cases to illustrate this observation.

A captain in the navy came to me, complaining of what he thought was indigestion, which, he said, was in him incurable. He had symptoms of what is called "Indigestion," or "Dyspepsia," or "Disorder of the digestive organs:" he had a pulse very slow and labouring. From this state of pulse I recollect it struck me that he was the subject either of some affection of the lungs, or of some affection of the heart, or of some affection of the brain. From the expression of his face, which was very peculiar, and from his fidgetty manner, I considered that the seat of the primary affection was in the head; and I directed all my questions to such points as were likely to illustrate the indications of a disordered function of the brain. I asked him whether he had ever received any injury on the head, but he denied this again and again. At length, however, he recollected that many months previously he had had a fall from his horse in hunting; and, very soon after that accident, symptoms like those of which he now complained began to make their appearance. I then examined the head, and found a depression of the left parietal bone and of the frontal bone, that is, of a portion of each of these bones. It was obvious that this depression was the cause of all the symptoms of which he complained; and it had completely changed his character, rendering him very unsettled, incessantly going about from place to place, a burden both to others and to himself. I intended to have proposed to him an operation for his relief, but I did not wish to alarm him suddenly. I was surprised to find that he had suddenly sailed for Madeira, where he afterwards died.

You will see, from this case, the propriety of examining the hairy scalp in all cases where you suspect any depression or injury to the head; and perhaps I committed an error in this case, in not taking into account the state of this patient's mind, which was in such a constant state of worry, that he would not remain anywhere for any length of time; perhaps, if he had been subjected to the operation of trephining, he might have recovered.

Depressions often indicate dislocations or fractures.

Fractures of the ribs are of great consequence in a medical point of view. I have been called to cases of inflammation of the pleura or of

the lungs where I have found that after a fracture of the ribs the bone has been suffered to rub backward and forward on the contents of the thorax. There is one rule which my friend Mr. Alcock lays down upon this subject, which is very valuable and very simple; namely, that you should examine each rib, from the sternum to the spine, separately, in order to satisfy yourself, if any doubt remain on your mind as to the existence of a fracture of one or more ribs.

Sometimes by a depression you can detect a peculiar state of lung which exists. You examine the chest and find that one side sinks more than the other. On tracing the history of the case you make out that the individual has been the subject of inflammation of the pleura or lungs; for example—inflammation of the left pleura occurs; a copious effusion follows, the serous part of which is absorbed, but a deposit of coagulable lymph remains and is converted into a fibro-cartilaginous substance. The lung being thus disorganised, is incapable of being expanded; and therefore the ribs on that side fall down to meet it. But I have sometimes seen one side of the chest apparently projecting more than the other—arising from a natural deformity—being connected with a lateral curvature of the spine.

Under the head of depressions I may notice a peculiar hollowness of the eye, which is occasionally to be seen. An individual has a very slight pain in the bowels attended by a slight degree of fever, which goes on week after week. In a few weeks you will perhaps be called to him, lying in bed, and with a remarkable hollowness of the eye, which is generally a symptom of ulceration of some part of the ilium. This is not always the case, for it also attends other abdominal affections—towards the close of all which you will often find the eye more or less hollow. It is a hollowness especially between the inferior tarsus and the inferior orbitar ridge, but extending all round the eye. When this occurs with a small pulse, with universal prostration, and with a feeble respiration, it is generally, as far as I have observed, a mortal symptom.

4th. There are certain *elevations* in different parts of the body, which are worthy of notice.

They are sometimes seen on the head.

A gentleman came to consult me, and told me that he had been for some time troubled with a rheumatic affection of the head. He said that it had existed for a long time, and that it was worse at night. By making further inquiries, I found that he had been the subject of chancre, and that he had passed through the regular series of syphilitic symptoms. He had experienced the primary symptoms under the form of

a chancre; he next became affected with secondary symptoms attacking the soft parts,—namely, with ulceration in the throat, and copper-coloured blotches on the skin;—and when I saw him he was labouring under ternary symptoms, in the form of affection of the bones;—for upon examination I found that, at the part where he complained of pain in the head, there was a syphilitic node. He was put upon a gentle course of mercury and sarsaparilla, and got quite well.

I saw another gentleman, who had been troubled for two or three years with what he called rheumatic pains, especially at night, in one of the lower extremities, which I found arose from a syphilitic node upon the tibia, and it was removed by the use of a gentle mercurial course and sarsaparilla.

Therefore you must use your own hands and your own eyes; take nothing for granted which I or any one else may say, but make your own observations. I saw a case lately, where a surgeon treated a case of what he thought to be syphilis, by affecting the patient's mouth by mercury several times; and yet this patient was salivated without any reason in the world. There was no history in the case which could bear him out in the treatment. The individual had been the subject of a chancre, but he had had no secondary symptoms, no affection of the throat or of the skin, and all that he was now troubled with was an affection about the fibrous or synovial membrane of the joints.

I have often had occasion to regret my ignorance of surgery; and, on the contrary, I have met with many surgeons who have been most lamentably ignorant of the first principles of physic. The medical establishments of this country are by no means adequate to the purpose for which they ought to exist. Instead of upholding and defending the rights of individuals, they deprive many individuals of their rights.

The examinations, at the Colleges, of candidates for admission to the practice of Physic and Surgery are not half so practical as they ought to be. The examinations on Anatomy should be on the human body. The examinations on the Principles and Practice of Physic should be at the bed-side of the sick. The examination on Materia Medica should be in the shop. Any other than such practical examinations are perfectly useless. Every student in the profession, if he reflects at all, must perceive this deficiency; and it was so much my own case, that though I was educated at one of the best, at least the most celebrated, schools of physic, yet I found that after all I had to make myself a physician; in short, I had to educate myself and get rid of the errors of schools and colleges, by observing and thinking for myself. Nothing impedes the progress of the science of medicine so much as establish-

ments which have been founded in dark ages; and certainly, if the liberal policy, which at present seems to pervade the administration of this country, be extended to science, the present corporate restrictions will be removed, as commercial restrictions have been. For it is very plain that all the medical corporate bodies in this kingdom are far behind the spirit of the age in which they exist: therefore it is my duty most solemnly to protest against them; for here I must, and I will, speak the truth. I repeat, that I frequently had to lament my ignorance of surgery, and that I have often had occasion to observe in surgeons a lamentable ignorance of the principles of physic. It very often happens, that a man possessing the highest confidence of the public is perfectly ignorant of the plainest principles of pathology.

Since, then, these impediments and restrictions exist, and since the examinations of colleges are by no means so strictly practical as they should be, I recommend you to cultivate all parts of the profession minutely. Take nothing for granted, but examine and observe for yourselves. Placed as you will be in situations where the happiness, the health, the life, of many individuals may depend upon your education, it becomes your duty to make most minute observations of facts; not merely to pass through the forms of the profession, but to possess yourselves practically of as much of the truth as possible.

The importance of an attention to slight elevations, then, is sufficiently obvious.

It may be that elevations occur in the spinal column. Persons often complain of what they suppose to be rheumatic pains of the arms or legs; and sometimes there is a sensation of creeping, as if insects were crawling over the extremities. Under these circumstances you must ascertain whether the symptoms are connected with some affection of the head,—of the stomach, liver and bowels,—or of the spinal cord; for inflammation of the membrane of the spinal cord often exists as the cause of these so-called rheumatic pains.

Elevations of the cervical vertebræ, of the dorsal vertebræ, or of the lumbar vertebræ, are sometimes observed; and, in order to detect them, it is necessary that you should be very minute in the examination of the surface of the body. Again, with respect to the chest, one side of it may protrude more than the other; and this may arise from the lateral curvature of the spine, but sometimes it arises from an effusion of fluid into the chest. In the one case there will be no difficulty of breathing, but when fluid is effused into the chest there is dyspnœa. In one case the natural sound will be heard in the chest, if Laennec's instrument be applied; but if fluid be effused into the chest, the respiratory murmur

will hardly be heard at all at that part. In affections about the chest you should examine the fore part of the neck. It is very important to be intimately acquainted with the anatomy of the fore part of the neck. A man, for instance, comes to you with a slight difficulty of breathing: it may arise from an enlargement of the thyroid gland pressing on the trachea; but in another case it may originate from an aneurism of the arteria innominata, and then the pulse is smaller in the right than in the left wrist, with a difficulty of breathing. These parts deserve minute attention. The patient may again have an aneurism of the arch of the aorta, indicated by excessive jarring about the carotid arteries, or by the existence of a circumscribed pulsating tumor, in a situation where there is naturally no such tumor.

When rheumatic pains are complained of, you should examine all the joints; for sometimes the cause of pain is an affection of the synovial or of the fibrous membrane of a joint. Sometimes pain of a joint is connected with other causes.

A friend of mine was called to see a gentleman who complained of rheumatic pains in one shoulder, and at first he did not examine it. But as the pain continued to increase, at a subsequent visit he examined the shoulder, and found that the patient was labouring under an aneurism of the subclavian artery.

The glands about the neck are sometimes enlarged, and you might think the enlargement of a gland externally was of very little importance; but I shall endeavour to show that it is sometimes of great consequence. Sometimes the glandular affection is local, but sometimes it is accompanied by a withered state of skin, often by an affection of the mucous membranes, and often by a similar affection of the mesenteric glands. If this state of skin be not relieved, the internal organs are very apt to be affected, especially during the first fifteen years of life. In the same way may arise, in many persons, affections of the organs of generation;—and in others affections of the liver,—for all which it is now the fashion to give blue pills to a very mischievous extent. Many patients would live under organic diseases for years, if they were not put under a series of experiments. If you regulate their diet and habits, they will, I repeat, often live for a great length of time very comfortably; and it is in vain to try to remove organic disease by harsh means.

It may be necessary to examine the Pelvis; and, in doing this, it should be recollected that the ovaria are sometimes diseased. In many cases it is important to attend to certain elevations on the surface of the body; and amongst others, it is very useful, in order to ascertain the state of the urinary bladder.

I have seen some most lamentable examples of mischief arising from the elevation of the distended bladder above the pubes being overlooked. A patient, for example, in a case of fever, lies on his back and moans incessantly night and day. At length it is observed by the practitioner, who, upon examination, finds the abdomen distended and the patient's linen wet. He introduces the catheter, and by drawing off perhaps two quarts of stinking urine gives the patient very great relief. But sometimes the relief is not very great; for if the bladder have been long distended, inflammation of the bladder is apt to come on after the operation, and the patient passes at first slime and then blood mixed with the urine.

In all cases of fever, therefore, especially if the head be affected, be quite sure that the bladder is emptied every day, by feeling the abdomen above the pubes; and if any doubt remain on your mind, if you find the linen wet and the patient moaning, the sooner the catheter is introduced the better.

The indications which are afforded by elevations in the glandular system are very important. You might suppose that the existence of a few knots in the glands of the groin was of no consequence; but they are often very important if they be attended with fever.

What has been called a carbuncle may be very important. Four years ago I had no idea that the Pestis of Asia is the same as the Typhus Fever of this country. But I have seen in this affection carbuncle, and the glands in the groin, in the axilla, and in the neck, inflamed; and they have been so distinct as entirely to identify the pestis of Asia with typhus fever.

And yet quarantine laws are in force; and they continue under the supposition that the pestis does not exist in this country; but they are very useless, for the disease already prevails here.

But I have never met with these effects without some obvious reason. I saw three individuals who were brought into the Fever Hospital one day with them; and the cause was very distinct; they lived in parts where the drains were all putrid and open. The same thing is the case where I am now lecturing. Carbuncles and glandular affections are by no means uncommon now in this country under low fever.

Another circumstance which is often very important is—

7. The Position of the Body.

In all bad cases the patient lies on his back. This is an observation as old as Hippocrates. When you see a person lying on his back, with the legs drawn up and a rapid breathing, you may be almost certain that inflammation of the belly is going on. When a patient, in a case of fever, lies on his side in an easy posture, it is a very favourable sign generally.

When he can only lie on one side it is very suspicious, and indicates some inflammation either within the chest or in the liver; and therefore you must investigate the other symptoms connected with this circumstance: and you should recollect that some individuals from habit cannot lie on both sides with indifference.

When the head lies as if it were drawn backward, you will find that it is frequently an indication of inflammation of the brain, in children.

When a patient labours under a slight affection he lies in the bed very lightly, so much so, that he seems as it were to rebound from it. He seems, in short, to have an elasticity of position, which is a favourable sign.

In the most serious affections the patient lies sunk in the bed, as a dead weight.

This difference is so striking, that any man accustomed to making minute observations might tell at first sight, whether a patient had a slight or a severe attack of illness, by the position in which he lay in the bed. A great deal indeed is to be learned from this point; and I advise you, in your attendance upon the wards of a large hospital, to notice how far this is the case.

8. Lastly, the Expression varies very much. The countenance may have an expression of dulness or of wildness, or of vigour, or of restlessness, or of indifference.

You have a remarkable countenance in typhus fever, and also in consumption. No man could see the face of a subject of confirmed consumption, and fail to recognize it again, if he were an attentive observer. If you analyze it, you will find that the conjunctiva is of a dead white cast; that the pupil is somewhat more dilated than natural; that the eye is somewhat brighter than natural, and has a soft pensive expression; that the cheek is somewhat hollow; that the nose is somewhat sharper than natural; that the temples are hollow; that those parts of the face which are usually white, are whiter than natural; that the lips are thinner than natural; and that there are circumscribed patches of red on the cheek.

This point is also important in another view; for, by the expression of the countenance, you may be often led to detect persons who feign diseases. I have met, in the course of my practice, many cases where diseases have been feigned, both in the middle, upper, and lower ranks: and when you detect any imposition of this kind, I recommend you to speak to the individual first. Tax him with it. If you go over to the friends and tell them your suspicions, they very often will not believe you at first, and perhaps send for another medical man; but tax the patient to his face with it, and he will generally be grateful to you for

it afterward; and the person's character and prospects in life may depend upon the circumstance. To give an instance (and I could mention many, for I have been called to several ladies who have been drunk; and really the case is a very delicate one), on one occasion I was called to see a most excellent young lady, who, having been chilled one day, was advised by a friend to take a glass of wine, after having fasted for a long time: she drank several glasses; and, when she went home, she became suddenly very ill. Her parents became alarmed, and sent for me; and I knew by the peculiar expression of countenance, by the state of the mouth with the saliva running down, and by a degree of tremor, what was the matter. I made up my mind at once, that she was a very nice young woman, but that still she was as "drunk as David's sow." I told her friends, that as it was only a little nervous affection, they need not be alarmed. I prescribed her a little medicine, desired that she might be put to bed; and gave an opinion that she would very soon be quite well again.

When I called the next day, I found, as I had predicted, that she had perfectly recovered. She blushed, looked excessively confused, and said, "You found me in a strange situation yesterday, and I fear it will lessen me in your estimation; but I assure you that it was perfectly accidental." And I believe that it really was quite an accident. She was very grateful to me for not publishing the cause of her nervous affection.

And as ladies are fond of poetry, I said to her—

"The best may slip, and the most cautious fall."

She made a curtsey, I bowed, and thus we parted.

Uneasy sensations are very important, as indications of disorder or disease; and they are very various.

1. There may be *Tenderness* over the skin, which is very important. It is sometimes the effect of a disorder of the spinal cord, which produces an universal tenderness of skin. When the belly is universally tender, do not at once decide that it depends on abdominal inflammation, but be quite certain that this tenderness does not also exist in the integuments of other parts; for, in that case, it generally arises from some affection of the spinal cord: and, beside, if it be not abdominal inflammation the other symptoms of such inflammation will be absent. Generally speaking, pain, with tenderness on pressure, if constant, are signs of inflammation of the viscera of the abdomen. Constant pain is a sign of inflammation, with two exceptions:—1st. In some hysterical women the pain is constant, and continues day after day (if we may

credit their testimony), and yet there will be no inflammation. And 2d. In Colica Pictonum the pain is constant; but it comes by fits; it is more aggravated at some than at other times; and there is no fever, neither the skin being very hot, nor the pulse very quick.

2. *Weight* is another uneasy sensation.

3. *Tightness*, too, is very important as in inflammation of the abdomen.

4. A *creeping* sensation, like that of insects, also sometimes occurs. I recollect a gentleman consulted me, and told me he had a sensation of centipedes crawling over the lower extremities; and it was clearly connected with a very serious affection of the brain. It was accompanied with loss of memory and giddiness.

5. *Coldness and Heat* are uneasy sensations sometimes: cold for example, denotes some serious affection of the brain; and sometimes it is a precursor of some febrile affection.

Impeded functions are very important. When the perspiration is not healthy, the head is frequently affected from a morbid condition of the skin. So also when the temperature of the skin is reduced, the heart's action will often be sunk, and *vice versâ*.

In like manner affections of the head, affections of the chest, affections of the stomach, of the bowels, of the kidneys, &c. arise from impediments to, or disorder of, the functions of the skin.

LECTURE V.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

II. NERVOUS AND MUSCULAR SYSTEMS.

In this lecture I shall consider the indications of a sound and of a morbid condition of the

II. NERVOUS AND MUSCULAR SYSTEMS.

The *Nervous System* admits of certain distinctions. It may be divided into—

1. The Brain—comprehending the Cerebrum and the Cerebellum.
2. The Spinal Cord; and—
3. The particular Nerves, either issuing from, or connected with, the Brain and Spinal Cord.

First, I shall begin with the consideration of the indications of a sound and of a morbid condition of the Brain.

I have often observed to you before, and I may again repeat it here, that you should always, in the investigation of disorder or disease, take into account the contrast between the healthy and the morbid signs; for in the contrast of these you will best see the distinction between the sound and the morbid conditions of an organ.

You must constantly refer to the Physiology of an organ for a knowledge of its healthy conditions; and contrast these with what we call its pathology, indicating its morbid conditions.

The indications of a sound condition of the Brain are remarkably various.

1. If the Brain (and the nervous system generally, but especially the brain) be in a healthy state, there is no Uneasiness, either within the head or outside of the head, or in any other part of the body (supposing, I mean, that the other parts of the body are sound.)

But the contrary is the case if there be anything wrong in the head; for example, there is then some uneasiness either in the head or outside of the head, or in some other part of the body.

1st. One kind of uneasy sensation is *Pain;* which may be occasional or constant.

a. It may be occasional. In families in which affections of the head prevail hereditarily, occasional pains of the head are very common. Pain in the head, for instance, occurs occasionally, continues for a few hours, or even for a few days, and then goes off entirely. These pains always render it very suspicious that there is some very serious affection of the head. I am now attending a lady, occasionally, who had pains of this kind for six months. Upon investigation, I found that her family, from time immemorial, had been subject to head affections; and the probability is, that she will, sooner or later, be the subject of some serious or fatal affection of the head.

I know another lady who, when she was seventeen years of age, was attacked by occasional pain in the temples and eyes, attended by a dimness of sight, which continued for about half an hour and then went off. This state she continued to be occasionally affected with till recently; and then, in one attack of the kind, she became quite blind. She is now nearly fifty years of age, and, since the last attack, her lower extremities have become completely paralysed. I have no doubt that some very serious disease exists in this state in the centre of the brain. Sometimes these occasional pains are of a rheumatic nature; and then you will find the patient liable to attacks of pain in other parts. I am now attending a lady who had a swelling in a bursa at the wrist, with pain at the wrist. This ceased a few days since; and pain in the head, I believe in the dura mater, occurred. I believe that rheumatic pains occur sometimes in the fibrous membrane of the brain,—the dura mater.

But sometimes the pain is external to the bones of the head; and instead of being inside the head is in the occipito-frontalis muscle. You must be very cautious in investigating these cases.

In one instance of this kind which I saw rheumatic pains were attacking alternately the shoulder and elbow, and the dura mater, and then the shoulder and elbow again. It attacked alternately the fibrous structures of these parts, till at last the pain became fixed in the head, and was attended by fever. The case soon terminated fatally; and, on examination of the head, all the membranes of the brain were found to have been inflamed; but the inflammation commenced in the dura mater, which had been the seat of the rheumatic pains.

One kind of occasional pain in the head is what is called Sick Headache. For example,—the stomach, liver, and bowels, become disordered, and a pain in the head occurs; and ceases when those

organs are put into a good condition. But sometimes the disorder commences in the brain; and the disorder of the stomach, liver, and bowels, is secondary: and all individuals who are liable to sick headache of this kind are prone to serious affections of the brain ultimately. The value of the knowledge of the fact is this—that you may preserve the individual from the future attack of disease in the brain, by directing him to avoid all those occasions which are liable to produce disorder.

Sometimes the pain in the head arises from a cutaneous affection. The vapour bath will rectify the harsh state of the skin where the pain in the head arises from that condition.

b. The pain may be constant. If the pain be constant, and be attended by fever, it is a strong indication either of acute or of subacute inflammation of the brain. If the pain be constant, but unattended by fever, it is generally an indication of chronic inflammation of the brain, or of the dura mater.

Constant pain is mostly an indication of some serious mischief; and chronic inflammation of the brain may exist and go on for a very long time without any fever.

The only exception I know of to this remark is in Hysteria. I have known several hysterical women who have complained of constant pain in different parts—in the head, in the chest, in the abdomen, or in some external part; and this pain has gone on for day after day, week after week, and even in some instances for years (if we may rely on their testimony), and yet no inflammation has followed.

I knew an hysterical lady who had a constant pain in the head for years, which withstood all the means which had been employed for relieving it. She was a very intelligent female, and it happened that as she was travelling on the Continent with her family, she reached Rome, and the impressions which were made on her mind during her stay there was so strong, that she entirely lost the pain of her head; the entire cessation of it proving that it was not depending upon any organic change.

At the same time, however, you must not assume that this is the fact in every instance; but you must investigate the circumstances of the case minutely.

I am attending two or three cases of this kind now; and it is a very remarkable circumstance, that the pain is often complained of in the course of the colon on the left side; sometimes it is in the head, sometimes in the chest, sometimes in the spleen, &c. If the pain in

the head be occasioned by any serious disorder or disease, it is generally increased by shaking the head, or by motion of the body.

The pain may be not in the head, but in some other parts. The brain or spinal cord may be affected, and there may be no pain in the head, but pain in the arms, pain in the legs, or pain in some other remote parts.

Therefore, if you hear any person complaining of rheumatic or gouty pains in the legs, it will be right to investigate the condition of the brain and spinal cord.

2d. There may be no pain either in the head or in any distant part; but there may be some other uneasy sensation: there may be a sensation of *Tightness*, there may be a sensation of *Fulness*, there may be a sensation of *Weight*, or there may be a sensation of *Pressure*. Again, all these uneasy sensations may be absent, and the patient may merely be *giddy*. And it is important to ascertain whether the uneasy sensation be constant or occasional.

a. Giddiness arises sympathetically from disorder of the stomach in many cases. If an individual be very much exhausted, either by mental or by bodily exercise, and then eat a hearty meal; when he attempts to walk, his head becomes affected, he staggers like a drunken man, and he is so giddy that every thing seems to go round. This state is best removed by rest, and by giving the individual a few tea-spoonsful of brandy. It is sometimes attended by all the signs of exhaustion.

b. But the worst kind of *Giddiness* is constant, and it cannot be traced to disorder of the stomach. It has a far more constant character, and seems to arise from some disorder or disease in the head. It is generally connected with some other uneasy sensation, as pain, tightness, weight, &c. I recollect I saw a case in which an individual having been exhausted, after a meal became so giddy, that he was afraid to venture to walk into the street. This state was removed by a regular diet, and by rest.

I may also mention two cases which I saw of a different nature.

A gentleman called upon me, and told me that he was very subject to giddiness. I found, upon conversing with him, that he recollected nothing distinctly; and his friend, who accompanied him, told me that his memory was much impaired. He had also a sensation of creeping, like that of centipedes, over his lower extremities. From these circumstances I was induced to believe that there was some serious mischief in his head.

A gentleman called on me about a fortnight ago in the morning,

and I observed that he had contractions of his fingers; that he stammered in his speech, which was not natural to him; that he complained of extreme giddiness in his head; and that he had a dejected expression of countenance. A friend, who accompanied him, told me that he was supposed to be hypochondriacal. As he was a drinker, I supposed that perhaps he had softening in some portion of the brain; and I told his friend that I should not be surprised to hear he died suddenly. Yesterday a gentleman called to say that he had been found dead in his bed.

Where giddiness, or any other uneasy sensation in the head occurs, you must investigate the cause of it, and that is generally to be detected by the combination of the symptoms.

Recollect, that almost all serious affections are of a permanent or of a progressive character; but that functional disorders are not constant, but occasional: they come and go.

3d. There may be distant uneasy feelings, not amounting to pain.

a. One of the most common of these is a sensation of *creeping*, like that of insects.

b. Or it may be *cramp:* cramps of the lower extremities often attend affections of the spine.

c. There may be *spasms* of the muscles. What is called wry-neck is extremely common when the brain is affected from spasm of the muscles on one side of the neck.

Whenever you suspect that any injury of the head has been received, always make a point of examining the hairy scalp, if possible, in order to ascertain whether any elevation or depression exists in any part of it. But in some cases this examination of the hairy scalp cannot be made; for some old maiden lady, with a flaxen-coloured wig, may call out, and prevent any such investigation.

2. If the Brain be in a healthy state the External Senses (the Sight, the Hearing, the Smell, the Taste, and the Touch) are natural.

But when the Brain is affected you will find some change in these functions: for example, you will in many cases have a change in—

1st. The *Sight.* Intolerance of light constantly attends acute or sub-acute, and very frequently chronic inflammation of the brain; and in chronic phrenitis it is a remarkable circumstance, that the patient will tell you he cannot look steadily at an object for any length of time.

Again, there may be no intolerance of light, but there may be flashes of light, or black spots floating before the eyes, or spangles;

or there may be weakness of sight, or dimness of sight; and these may occur in some instances when the individual is very much exhausted, but in other cases where the person is in a high state of excitement. Sometimes they are accompanied by a cool skin, by a feeble pulse, by a pallid face; in other instances they are connected with a hot skin, with a strong pulse, and with all the other indications of a high state of excitement; therefore you will see the necessity of taking into account the combination of circumstances.

In many cases in the progress of affections of the brain the patient becomes completely blind. I have seen three cases of this kind within the last twelve months.

One of these patients had an acute attack of inflammation of the brain, with total loss of vision, and this patient died.

In the other two cases the disease was chronic, and stole on insidiously, being at length combined with complete loss of sight.

Secondly, when the Brain is affected you may have a change in—

2d. The *Hearing*, which may be more acute, or more dull, than natural.

There may be noises in the ears, which may be compared to the roaring of the sea, to the ringing of bells, to the hum of bees, or to the fall of waters; and all these must be taken into account.

At the same time, when changes take place in the sight or in the hearing, you must investigate the local condition of the eye or of the ear, to see if there be any thing local to account for the disturbance of the functions of these organs; and if there be no such local condition, then the disturbance is referrible to the brain.

When the Brain is affected another change may take place in the External Senses, namely, in—

3d. The *Touch*, which, in these cases, generally becomes more acute than natural, or more dull than natural. Nothing is more common, for example, than for patients labouring under affections of the brain to complain of numbness of the fingers and toes.

Sometimes there is a numbness and tingling in some other part of the body.

Sometimes the whole surface of the body becomes so tender, that it will not bear to be touched; and this occurs when the brain and spinal cord are affected. This universal tenderness is apt to be mistaken for inflammation of the peritoneum; but it is very easily distinguished, for in peritoneal inflammation you have the other existing signs of inflammation, which are all absent when this tenderness arises from a morbid condition of the brain and spinal cord; besides

which, in the latter case the tenderness is universal; it is not confined to the abdomen, but extends even to the extremities.

I recollect a pupil of mine had a case of this kind under his care, and was very much alarmed, for he supposed it to be a case of peritoneal inflammation; but when I saw the patient, I found that all the other signs of abdominal inflammation were absent, at least to my eye. In the next place, when the Brain is affected, you have very often a change in—

4th. The *Taste;* or in—

5th. The *Smell.*

These senses will become more acute than natural, or more dull than natural, or in some other way perverted. Generally, under affections of the brain, the Taste and the Smell are affected at the same time.

3. When the Brain is in a healthy condition the Expression of the countenance is natural. When the brain is affected the expression of the countenance is very often changed; and you must gather information on this point by inquiry of the friends. But if you happen to have known the individual previously, the change will be very evident to yourself; otherwise, I repeat, you must ask the patient's friends if they observe any remarkable change in the countenance.

Mothers who watch over their children anxiously often observe very slight changes in the countenance. When a mother tells you that a change has taken place in the expression of her child's countenance, it is always a very alarming circumstance, for there is almost always something wrong in the head.

The expression of the countenance under any disturbance of the brain may be very various. It may be an expression of *Wildness;* it may be an expression of *Weariness;* it may be an expression of *Indifference;* it may be an expression of *Sleepiness;* it may be an expression of an extreme degree of *Animation;* it may be an expression of *Dejection;* it may be a *Vacant Stare;* it may be *Squinting;* in short, it may be extremely various, as you will see it in cases of mania. In walking round the wards of an asylum for such individuals, I have never seen one maniacal person with a natural expression of countenance. I could often analyse the altered expression of countenance; and though it is scarcely alike in any of these cases, yet there is something so peculiar in it, that a practised eye could at once mark that these were maniacal persons by the peculiar expression of countenance. But of this I again shall have occasion to speak. My object now is to give you certain facts to guide you in the com-

mencement of your studies, and I shall afterwards enter more minutely into detail,—for we must come to particulars after all.

4. When the Brain is in a sound condition the Moral Habits and the Intellectual Faculties are natural. But this is not the case when the brain is the seat of any morbid condition; for then there is some change in the intellectual faculties, or in the moral habits.

This change may be very various: it may be a greater *activity*, or a greater *slowness* or *dulness* of mind than natural; it may be a greater *attention* to surrounding objects than natural; it may be *defect of memory;* it may be *lassitude* or *deficiency* of mental energy. It sometimes happens that the individual is more ill-tempered than natural, or in other instances that he is better tempered than natural. There is often some remarkable change in the dress of the individual, or in his gait, or in his manners, or in his habits, or some *inconsistency* in his present compared with his past conduct.

These circumstances are very important, as they very often lead to an inference that some change is taking place in the Brain.

For instance—a patient first becomes nervous; and then some change in his mind occurs,—some defect of memory, or fretfulness, or loquacity, or indifference, or dejection,—with some change of habits.

It is of great consequence to attend to these indications early, for a mere disorder of the brain may be stopped, which would otherwise end in an attack of apoplexy, of palsy, or of madness.

I am quite confident that madness is always arising from a physical cause. I have never seen the Brain of any maniacal patient examined after death in which there has not been some morbid change; and if I may use very strong language, I do not believe those individuals and authors who say that there has been no change in the structure of the brain to be found upon examination after death in maniacal cases. Slicing off the brain in large lumps, as they do, how dare they presume to say that there is no disease or alteration of structure?

5. When the Brain is in a healthy condition there is no remarkable change either in the Time of Sleep, or in the Manner of Sleep.

But when the brain becomes affected there very often is some change, either in the time or in the manner of sleep.

The individual perhaps sleeps in the day, which he was not accustomed to do when well; or he is sleepless at night, and sleeps during the day; or he has dreams,—sometimes pleasant, but generally frightful, dreams; or he sleeps more profoundly than usual in the night, and is more fidgety than natural in the day; or he lies more still than

natural; or he starts occasionally; or the position of his body during sleep is different to what it is in health; or he moans; or mutters; or he breathes differently to what he did in health; or he falls asleep at an unusual time.

6. When the Brain is sound there is no remarkable change in the voluntary or involuntary Muscles.

But there is some remarkable change in the voluntary or involuntary muscles when the brain is affected.

Let a patient have an attack of inflammation of the brain, and generally the consequence is a complete languor of the muscular system, with a languid expression of countenance.

A case of this kind occurred at the Dispensary lately. A man was brought in there leaning as a dead weight upon those who brought him, with a complete prostration of strength; and it was evident his brain was inflamed.

Sometimes when the brain is affected the individual has temporary fits of tremendous muscular power; but generally there is deficiency of muscular power.

In acute, sub-acute, or chronic affections of the membranes of the Brain, the eyelid is often changed in its appearance.

When the affection is acute or sub-acute there is often a dropping of one or both upper eyelids. When any serious affection is going on in the head, there is sometimes a dropping of one eyelid, a partial palsy from pressure.

But you must recollect that some persons are so constituted that the eyelid drops naturally more on one side than on the other; and where this occurs you may be quite sure that the individual is predisposed, either hereditarily or acquiredly, to affections of the head. The same observations apply to other peculiar muscular actions—to wry-mouth, for example, when an individual smiles.

The affection of the muscles is sometimes weakness of the fingers, of the hands, of the toes, or of the feet, which, if it cannot be accounted for otherwise, must be referred to some disorder or disease in the brain.

So, when numbness of the fingers, of the cheek, of the feet, &c., occurs without any obvious cause which will account for it, you will generally find it connected either with an incipient or confirmed affection of the brain.

In affections of the brain stiffness of the muscles is very common in the neck; and when the spinal cord is affected, especially in the

loins. Commonly, too, there are painful cramps in the lower extremities.

Involuntary startings and twitchings in the face are always indications of some predisposition to affections within the head.

I attended a gentleman who for twenty years had been subject to involuntary twitchings of the face, and then he had an attack of palsy, from which, however, he recovered; but the twitching of the face and the predisposition to affections of the head remain.

There may be complete loss of power in the extremities, or in one side, or there may be partial loss of power,—for instance, staggering.

A gentleman called upon me this morning, and I observed, as he walked into my room, he set remarkably short steps, and in attempting to go backward to a chair he staggered, and required to be supported. Upon inquiry I found that he had other indications of some very serious disease in the head.

A remarkable change is Stammering. A child or an adult, for example, finds that he cannot pronounce a certain letter, or a certain word, which he had previously been able to pronounce very easily.

Another thing which is of consequence is, that you should attend to the sphincter muscles. Sometimes they are slightly relaxed. This is very often the case in the bladder; so that the urine is not retained so long as usual. But sometimes it is retained longer than usual. Sometimes these states are connected with a morbid condition of the brain or spinal cord.

But in all these cases you must investigate the local causes, which may produce a change in the actions of the muscles—as about the joints.

7. When the Brain is in a healthy condition there is no remarkable change in the Respiration. When the brain is acutely or sub-acutely inflamed, there is invariably some change in the respiration; for in these cases it always happens that the patient takes an occasional deep drawn sigh.

If you stand over the bed of a patient labouring under this affection, every now and then you will perceive a deep drawn sigh. The breathing in such cases is generally quicker or slower than natural.

When the breathing is quicker, or slower, or more oppressed than natural, the affection of the brain is generally very serious. If the affection of the brain be not serious, the breathing will not be affected.

8. When the Brain is in a healthy state there is no remarkable change in the state of the Pulse; or in the stroke of the heart, which is the pulse. In the beginning of acute or sub-acute inflammation of the brain, the pulse is generally quicker than natural. When effusion is about to take place, the pulse generally becomes slower, though not slower than natural; and in the advanced stage the pulse rises again. In chronic affections of the brain, the pulse becomes altered in its frequency; for instance, in a person whose pulse usually beat previously seventy times in a minute, it falls to sixty. This is very common in chronic affections of the brain.

You must therefore investigate the combination of symptoms, and endeavour to ascertain what was the natural state of the pulse.

9. When the Brain is in a sound condition there is no remarkable change in the Functions of the Stomach. When the brain is affected, in the onset or in the progress generally the stomach does become affected. Nothing is more common than to find an infant the subject of vomiting, which is the first evidence often of inflammation of the brain. An individual receives a fall from a horse, or from a ladder, and feels at first little inconvenience from it. He goes about for a week, with slight indications of disorder in the brain,—uneasiness, &c., and then he has an attack of vomiting as one of the first evidences of inflammation of the brain. Many cases of vomiting are connected with the state of the brain.

In most cases of affection of the brain, whether acute, sub-acute, or chronic, the stomach is disturbed in their progress. In an acute, sub-acute, or chronic affection of the brain, the tongue generally becomes rougher than natural; but sometimes it is very little more furred than natural.

When the head and the stomach are simultaneously affected, you must try to ascertain which was first affected; for affections of the head will influence the stomach, and those of the stomach will influence the head.

10. When the Brain is in a healthy state there is no remarkable change in the Functions of the Bowels. But the bowels are almost universally torpid when the brain is seriously affected with disorder or disease.

There are four causes which may occasion torpor of the bowels:

1st. Affections of the Brain;

2d. Affections of the Spinal Cord;

3d. A deficient secretion of Bile;

4th. A torpid condition of the Colon.

When torpor of the bowels, therefore, occurs, you must investigate the condition upon which it depends; and, by attending to the combination of symptoms, you will be at no loss to come at this.

The bowels are far more apt to be torpid if the dorsal portion of the spinal cord be affected; but less so when the cervical or lumbar portions are affected.

Secondly, with regard to the indications of a sound or a morbid condition of the Spinal Cord.

1. When the Spinal Cord and its membranes are healthy there is no Pain or Tenderness on pressure over the spinous processes of the vertebræ; nor any pain on bending or twisting the body forward, backward, or to either side. But when the spinal cord or its membranes are inflamed there is pain either on pressure over the spinous processes or in motion of the vertebræ.

2. When the Spinal Cord and its membranes are sound there is no Tingling either in the upper or lower extremities, nor any peculiar Numbness there. But when these parts are affected there generally is some pain, numbness, or tingling,—in the upper extremities if the cervical portion be affected,—in the lower extremities if the lumbar portion be affected,—while if the dorsal portion be affected, the stomach, liver, and bowels, are more influenced.

3. When the Spinal Cord and membranes are healthy there is no peculiar affection of the fingers and toes. The French call the toes the fingers of the feet; and there is no doubt that we should have considerable motion in our toes, perhaps as much as in the fingers, if they were not cramped so much by tight shoes, and were more frequently used. We have a proof of this in those persons who have been born without arms, and who use their toes with very great facility and ingenuity. If the spinal cord be affected, there is some defective touch in the fingers or in the toes; the individual, for example, cannot take up a pin. If the cervical portion be affected, there is diminished sensibility of touch, or numbness of the fingers; if the lumbar portion be affected, there is a diminution of sensibility in the toes as to the sense of touch. With this, sometimes some other part has a preternaturally acute sense of touch.

4. When the Brain and Spinal Cord are affected together, sometimes there is Extreme Tenderness of the surface or integuments of the body: and the same when the Spinal Cord is affected alone. It generally pervades all parts of the surface; but is sometimes most obvious in some particular part.

5. When the bony column of the Spine is not affected there is no

Lateral or outward Curvature of the spine; but when it is affected, sometimes a lateral curvature occurs, sometimes the curvature outward forming what is called a hump-back.

I have been consulted in several families where lateral curvatures have occurred in several members, at about the age of puberty, especially in the daughters. In these cases you should support the strength, by allowing a good deal of animal food, and encouraging the individual to take plenty of exercise in the open air. A great many girls become deformed from being too long at schools, sitting on stools or forms, with their backs unsupported, in a close atmosphere, sitting up late at night, and living on unwholesome diet. By attending to these circumstances, very many cases of lateral curvature might be prevented.

The other affection is much more serious, namely, the curvature of the spine outwards. It arises from inflammation of the spongy bodies of the vertebræ; which is denoted by pain and by a pallid countenance, before the deformity occurs.

Thirdly, with regard to Particular Nerves, you must make out their natural functions; and those have been very much illustrated lately by the French physiologists.

When a nerve is affected you must endeavour to ascertain whether any tumour be pressing upon it in any part of its course. Most frequently the pressure is at the origin of a nerve. But if you ascertain the origins, the connexions, and the healthy functions of the nerves, you will be at no loss for the seat of any particular affection of a nerve.

LECTURE VI.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

III. RESPIRATORY SYSTEM.

In this lecture I shall consider the conditions of a sound and morbid condition of—

III. THE RESPIRATORY SYSTEM.

I arrange the Respiratory System under three heads:—

The first comprehending the anterior and the posterior Nostrils, together with the Sinuses, the Hard and Soft Palate;

The second comprehending the Pharynx, the Epiglottis, the Larynx, the Trachea, and the Bronchia.

The third comprehending the Lungs, the Pleura, and the auxiliary muscles of respiration.

And I recommend those gentlemen who are not conversant with the anatomy of those parts, to refer to Fyfe's or some other work on anatomy.

This is a very artificial system, which I have thus divided, for the purpose of illustration. Now, what are the indications of a healthy condition of these parts?

1. There is no unnatural sound either in the breathing or in the speaking; and the contrast of this shows a morbid condition.

When the respiratory organs are disordered there very often is some unnatural sound in the breathing or in the speaking; and the change in the respiration and the voice is remarkably various. Sometimes it may be called a nasal twang. If a patient labour under inflammation of the posterior part of the nostrils and of the palate, he will have a kind of nasal twang, as occurs in syphilis. So also in inflammation of the tonsils there will be a nasal twang, with a thickness of sound.

It is very difficult to describe the various sounds in words, perhaps as difficult as to describe different motions in words. Some critics have imagined that Homer, Virgil, and some of the English poets,

have described sounds; and perhaps they have succeeded about as well as a distinguished poet has in describing the motion of a snail, where he says—

"Sleek, slippery snail, slow sliding o'er the slime."

The change in the sound may be a stuffing. If there be inflammation of the anterior and posterior part of the nostrils, there is a sort of stuffing noise.

If the affection be in the larynx, there is either a hoarseness or a whispering noise.

If the epiglottis be affected together with the larynx, there is a very distinct, peculiar flapping noise, arising from a spasmodic state of the epiglottis.

When the mucous membrane of the bronchia is affected, either alone or with the lungs or pleura, there is a wheezing, rattling, or purring noise, or a sound like that of the wind rustling among leaves.

When sinuses exist in the lungs, and communicate with the bronchia, as in tubercular phthisis, there is a very peculiar noise, which I can distinguish accurately, so as to be positive when that state exists; but I can hardly describe it in words. It is a noise as if a small piston were forced up and down in a mucilaginous fluid, from which air bubbles arose with a crackling noise.

I have never but in one instance seen a patient recover who had this peculiar sound; for it generally occurs in the advanced stages of consumption.

When the pleura or lungs are affected, there is a peculiar noise, like that which is to be heard by standing near workmen who are sawing. You will hear a sawyer, at each motion of the saw, make a peculiar noise in expiration, which the noise in these cases very closely resembles.

This account of the changes of sound in breathing and speaking, under the different affections of the Respiratory System, is very imperfect, but if you attend to the different noises which are made, and connect them with the morbid condition of the part as displayed by examination during life, or after death, you will find that it will often lead you to very important inferences.

2. When the Respiratory System is in a healthy condition there is no impediment to the transmission of air either to or from the lungs.

But very often, nay generally, when the respiratory system is dis-

ordered there is some impediment to the passage of air either into, or out of, the lungs.

If a polypus exist in the nostrils, there is a peculiar dull sort of nasal noise indicating some obstruction to the passage of air; and if you direct the patient, alternately, to close one nostril and blow through the other, you will generally detect any local obstruction, as that of polypus, which may account for the peculiar noise and for the impediment to the passage of air.

When there is an increased secretion of fluid in the anterior or posterior nostrils, there is a stuffing sort of impediment to the transmission of air; as in catarrh.

When an individual is very much exhausted and the nostrils are preternaturally dry, there is a peculiar, dry, wooden sort of noise. When I hear this noise I am always very much alarmed, for it generally is attended by serious affections of the lungs.

If there be a swelling about the tonsils, there is still a peculiar noise produced through the nostrils by the impediment to the transmission of air.

The same takes place when there is relaxation of the uvula with relaxation of the soft palate; there is a thick, obstructed sort of noise. This may generally be considered as a secondary affection, depending upon a disordered condition of the stomach, liver, bowels, and skin; and you will be able to detect the relaxation by inspecting the parts.

If there be any thickening of the epiglottis there is an obstructed sound.

Tumours of the neck often produce an obstructed sound, distinctly arising from pressure on the larynx; for instance, enlargement of the thyroid gland.

A gentleman called on me lately who was breathing very quick, and upon examination I found the thyroid gland very much enlarged. I have seen many such examples.

Whenever you suspect any pressure of this kind on the larynx or trachea always examine the neck, for some persons are so foolish that they will not tell you of any deformity which exists, from enlargement of the thyroid gland or otherwise. In a woman, whose neck is exposed, you cannot avoid seeing the enlargement, where it exists. If there be no swelling, it is chronic inflammation or thickening within the larynx; or it may be an aneurism of the arteria innominata, which very often presses on this part. The same condition may arise from an aneurism of the arch of the aorta, producing a change

by its pressure. Sometimes the obstruction is merely temporary: this is very apt to be the case in infants under the process of dentition. In these cases, without any fever, a spasmodic difficulty of breathing occurs—and the child sometimes dies suddenly in this way.

I have seen several examples where a child has been suddenly attacked with difficulty of breathing, and has died from a spasmodic affection which closes the rima glottidis. This is generally associated with disorder—of the stomach, liver and bowels; or in the head. I have seen the same thing in hysterical women. A spasmodic difficulty of breathing has occurred, and has sometimes threatened the individual with an attack of apoplexy.

3. When the Respiratory System is in a healthy condition there is nothing unnatural in the manner of breathing, especially with reference to the larynx, trachea, bronchia, lungs, and pleura.

One important fact with reference to breathing is, the relation which the number of respirations bears to the number of pulsations of the heart, in a given period. The average number of respirations in a healthy adult is about eighteen in a minute, and the average number of pulsations is about seventy-two in the same period; the relation being, therefore, in the proportion of one to four. But in almost all acute affections of the larynx, trachea, bronchia, lungs, or pleura, this natural relation does not exist, for the relation in the morbid condition is more than in the proportion of one to four, and the number of respirations is increased to thirty-six, forty, and in bad cases even to fifty or sixty. When this relation therefore is lost, you may suspect the existence of mischief in some part of the Respiratory System.

Another thing to be noticed is, the depth of the inspiration, and the force of the expiration.

In many cases of disordered respiration, where its frequency is increased there is no affection of the chest, and the inspirations are shorter, and the expirations quicker than natural.

This is remarkably the case in inflammation of the brain, but it is more remarkable in some cases of abdominal inflammation.

It is not a difficult respiration, but a short and quick respiration. In acute inflammation of the brain, and of the serous membrane of the abdomen, the change in the respiration is very different from that which occurs in inflammation of the bronchia, of the pleura, or of the lungs: for when the respiratory organs just mentioned are inflamed there is a difficulty of breathing;—you see the chest heaving up and down with evident difficulty, the auxiliary muscles of respiration are

called into action more than usual, and the alæ nasi are seen moving rapidly.

Hippocrates, not being guided by the pulse, judged very much of disease by the respiration. And if you go round the wards of a hospital you may distinguish in some patients that they are labouring under affections of the chest, by the state of the breathing.

In serious cases the difficulty is greater than in the slight cases; and you will often observe that the alæ nasi move very rapidly; that the muscles of the neck move very much; that the diaphragm and abdominal muscles are acting more than natural, to carry on the laborious respiration.

Another point of importance is, whether the difficulty of breathing be occasional or constant; if constant, then the cause is fixed; if occasional, a spasmodic affection of the bronchia may be the cause.

You must take into account also the influence which the heart has on respiration.

The respiration is almost invariably disturbed on motion, especially on going up hill, if there be any disease in the bag of the heart; and a very remarkable circumstance is, that if the individual rest for a short time the respiration becomes relieved again. But in disease of the lungs the breathing is still laborious, whether the individual be at rest or in motion.

A mechanical cause may occasion a difficulty of breathing.

Wind in the intestines may produce a difficulty of breathing; for instance, flatulence, produced by drinking fresh malt liquor. I have been called up at night many times to patients who were labouring under dyspnœa from this cause.

If there be pressure about the origin of the eighth pair of nerves (or pneumo-gastric nerves), the respiration always becomes slower; and therefore, when the respiration is less frequent than usual, you should recollect that the affection may be about the head.

4. When the Respiratory System is in a healthy condition, especially the fauces, the larynx, the epiglottis, the trachea, the lungs, and the pleura, there is no cough.

What is called coughing consists either of one forcible expiration, or of many forcible expirations rapidly following each other. In affections of the larynx sometimes there is no cough, but only an attempt to throw off a little mucus; but most frequently when the larynx, or bronchia, or lungs, are affected, there is a cough.

You must recollect that a cough is but a mere symptom, depending

upon very different conditions; and the kind of cough is very various.

1st. There may be what may be called a faucial cough, connected with the posterior part of the fauces, &c., a peculiar cough, limited to the throat, with enlargement of the tonsils.

It is so peculiar, and the sound seems so limited as it were to the fauces, that a nice ear can at once distinguish it.

Chronic inflammation of the larynx generally excites a dry cough, or a cough with a little very tenacious expectoration in the morning, with a sensation of uneasiness about the pharynx.

When chronic inflammation of the pharynx or of the tonsils occurs, the affection generally commences in the skin. It very often spreads, in its progress, down to the larynx.

2d. There is another kind of cough, which might be called the epiglottal cough.

When the epiglottis is tumefied by being the seat of inflammation, the patient often has not the power of coughing out at all; but he makes an effort, and the cough seems to end in a sort of strangulation in the upper part of the larynx.

3d. There is another kind of cough, which might be called a laryngeal cough—a hoarseness—or a clanging, reverberating sort of cough, which is very peculiar.

In what is commonly called croup, in every case of which the larynx is more or less affected with inflammation, there is a clanging, brazen, or barking sound, as if the air were forced through a reed, or through a brazen tube.

In nervous women, and women of great sensibility, there is a cough, so loud and noisy, that you may generally hear it reverberate through the whole house. This kind of cough is generally a dry cough; a lady, for example, is exceedingly sensitive, and starts when the door is suddenly opened as if she were electrified. I am now attending a case of this kind in a lady; and every time I visit her she begins to cough.

Now all these affections are aggravated by notice.

This is a cough which might at first alarm you; but it is very often connected with foul stomach; and then an emetic will sometimes relieve it very rapidly—almost as if by magic.

What is called whooping cough consists of very rapidly succeeding expirations; and one deep drawn inspiration, accompanied by a peculiar sound called a whoop.

4th. There is another kind of cough, which might be called a bron-

chial cough, and which is extremely distinct. If you put your ear to the patient's mouth, you will hear a loose, soft, mucous, gurgling, diffused sort of noise, which is perfectly distinct from the faucial cough, from the laryngeal, or from the epiglottal cough.

5th. There is another kind of cough, which might be called the pneumonic cough.

The bronchial lining, for example, is drier than natural; the substance of the lungs becomes gorged with blood; and there is a very peculiar cough. It has a shrill, harsh, and metallic sound; and seems limited to a particular part of the lungs; so that it appears as if you might mark out with a pen and ink its precise source or boundaries.

6th. When the substance of the lungs has suppurated there is another kind of cough, which might be called the phthisical or suppuration cough. It is deep, hollow, and reverberating. Mark a patient —if you wish to hear this cough—in confirmed consumption, and you will distinguish the sound very distinctly; and from it you infer the actual state of suppuration.

7th. If the pleura be inflamed, there is a hard, dry cough, which might be termed the pleuritic cough: without any other particular circumstance, further than its hardness and dryness, to distinguish it.

You will find it of very great use to attend to these varieties of cough, which may be very accurately distinguished by attentive observation. Recollect that all correct opinions are founded on minute distinctions; and that the habit, therefore, of making minute investigations and minute distinctions is of the greatest consequence. And the difference between a good and a bad pathologist is, that the one will form minute inquiries and observations, and be able to draw correct inferences from certain circumstances, which a common or careless observer would entirely overlook.

5. When the Respiratory System is in a healthy condition there is no unnatural sound on percussion of the chest, or on the application of the cylinder or stethoscope,—I mean when the chest is in a healthy state.

If you strike the upper part of the chest of an individual in health, with the tips of the fingers level with each other, it will emit a distinct sound very like to that produced by striking an empty cask.

If the upper part of the lungs be hepatized, the sound will be comparatively dull, like that produced by striking the thigh, or a cask filled with water.

Suppose a person were to fall on the left side, and, in consequence

of a fracture, blood was to be effused into the substance of the lungs; the chest would have a dull sound on that side upon percussion, from which you might infer that blood was extravasated there; while on the other side of the chest you would have a full clear sound. This actually occurred in a case which I saw some time ago; and the patient was dying when I saw him.

Percussion, then, is of great value in the diagnosis of affections of the chest, especially in conjunction with the use of the cylinder. If you wish to apply the cylinder with precision, you should begin by first ascertaining the healthy sounds accurately.

If you hold one end of the cylinder lightly to the chest, and apply your ear to the other end, if there be perfect silence in the apartment, you will hear—supposing the lungs to be healthy—a protracted sort of murmur produced by the air penetrating all the bronchial passages. You should hear this particularly in children, for in them it is more distinct. Laennec calls it the pneumonic murmur, or pulmonary respiration.

Contrast this with the sounds emitted in disease. If the disease be in the mucous membrane of the bronchia, you will hear, on the application of the cylinder, a sort of mucous guggle. If there be inflammation of the substance of the lungs, you will have what Laennec calls a crepitous murmur; but I should call it a shrill metallic sound: or there is a bleating noise, which Laennec calls hegophony—a noise like the bleating of a goat transmitted through a fluid. When abscess exists in the lungs, you have a different sound, which can readily be distinguished—a sound which Laennec calls pectoriloquism.

If you place the instrument over the larynx in health, and tell the person to count, the sound will seem to come along the tube into your ear; and this is exactly the sound in an abscess of the lung.

Tell the patient to count one, two, three, &c., or to laugh, or to speak; and if you place the cylinder over the larynx, you will hear this sound very distinctly.

One thing which I recommend you to observe is not to expose the chest in using this instrument. I have no doubt that great mischief has been done by the abuse of the cylinder in exposing the chest to the air—a circumstance which the French seem entirely to overlook. Very serious affections may arise from such exposure; and I advise you to take care and have the apartment of a comfortable temperature, and to have the chest covered with flannel, as a flannel waistcoat, which should be nicely and evenly applied; for the sound is not materially obstructed if the chest be smoothly covered.

6. When the Respiratory System is in a healthy condition, there is no unnatural colour of the lining membrane of the air-passages, of the lips, or of the cheeks.

You will see the tonsils, when they are inflamed, swollen and red; you will see the same, when the pharynx is inflamed, that it is red: and when the epiglottis is inflamed, you may see that it is rendered red, if you examine it properly by placing the patient opposite the strong light of the sun, or by throwing the light of a candle, by means of the reflection of a mirror, upon the part, which is a very good plan, and will enable you to see the whole of the epiglottis. Inflammation of the air-passages may arise either from a common occasion, as cold; or from an especial occasion, as malaria, the human contagions, putrid effluvia, &c.

Now one of the first warnings of a serious case of small-pox, or of measles, or of scarlet fever, is an inflammation of the air-passages; and very often you will find that it is connected with secondary symptoms of syphilis: and you can detect the variations of colour in all these cases. The inflammation of small-pox and that of scarlet-fever differs from that of measles; and the syphilitic inflammation differs from common inflammation in having a copper hue. In referring to the nostrils, the same colour extends to the nostrils from the syphilitic ulceration of the throat.

I saw a gentleman some time since who had a peculiar nasal twang, and a copper colour of the lining membrane of the nose. Upon inspection I found that there was a copper hue upon the soft palate; and with this copper colour there was a red spot behind, which was an ulcer which had penetrated the soft palate and left an opening there.

Whenever affections of the larynx, trachea, bronchia, lungs, or pleura, are so urgent as to interrupt that vital change in the blood which ought to take place in its passage through the lungs, and in fact to prevent the venous blood from acquiring the peculiar arterial hue, then the lip becomes of a dusky hue, or plum-coloured, or like a grape, or of a violet hue, or of a leaden hue.

The cheeks also have their colour changed, and become plum-coloured, if they have been vividly red naturally; or if they have been pale in health, they have a hue of paleness and livor mixed together, from the same cause which alters the colour of the lips.

At the same time you should take into account that the colour of the arterial blood is connected with its velocity; for when the blood circulates slowly through an artery it loses very soon its arterial

character, and acquires the characters more or less of venous blood. You may see this in the face of many individuals on a cold day.

You may always detect that malformation of the heart which is popularly termed the blue disease. The individual has a preternaturally blue skin; and when either the mind or the stomach become disturbed, there is difficulty of breathing. This affection is generally congenital; and these individuals mostly die before they are three years of age, though sometimes they grow up to adult age. The affection always depends upon some communication between the right and left auricles. It was formerly thought to arise from the foramen ovale being left open after birth; but this does not appear by any means to be always the cause. However, by this communication, the venous and arterial blood are mixed together, and yet all the functions go on well. But when the bronchial lining is smeared with a sticky varnish, there is invariably languor with lassitude. So that there seems to be some difference between the state of the blood which is produced by the especial bronchial affection, and that which is produced by the mere mingling of the venous and arterial blood. This smearing of the bronchial lining with a morbid and increased secretion is producing a slow species of drowning. A large quantity of mucus or of serum is poured into the bronchial passages; and as it prevents the natural change in the blood suffocation is the consequence.

And sometimes this effect is almost as sudden as in drowning.

An individual, for example, becomes chilled, he becomes pale, and livid, with a skin universally cold, and a feeble pulse; and he suddenly dies, without any apparently sufficient cause. But upon examination after death it will be found that a large quantity of serum has been suddenly poured into the bronchial passages, and has produced suffocation.

The respiration may be suspended for a short time, and again be restored. You are not, however, to believe those cock-and-bull stories which are on record about persons having been under water for a long time, and being then resuscitated.

The Royal Humane Society have, in their Report, quoted an instance from Shakspeare of a person who recovered after he had been nine hours under water. This, however, is quite incorrect; for notwithstanding the cases the Royal Humane Society have published—perhaps justifiable for the sake of humanity—yet no person ever recovered who had been nine minutes under water. The pearl

divers never remain under water more than a minute and a half; and therefore I repeat, that there has been some deception in these cases; and the respiration has been supposed to have ceased when it was remarkably feeble. I do not believe that the respiration having been stopped even for only five minutes the patient will ever recover.

As to the treatment:—in these cases, the three great objects are, to restore the respiration, the animal heat, and the action of the heart.

7. When the Respiratory System is in a healthy condition, there is no unnatural secretion from any part connected with this system; but there is some morbid secretion very often when this system is disturbed.

Let a polypus, for example, exist in the nostril; and one of the symptoms often is a trickling of fluid from that nostril, with an occasional sneezing. In common catarrh, as it is called, there is always a secretion,—at first of a watery fluid, but the secretion afterwards becomes opaque.

The same occurs in measles; there is an increased secretion from the nostrils.

The same very often occurs in scarlet fever; and sometimes the secretion is so acrid as to excoriate the parts on which it flows.

In all cases of inflammation of the mucous membrane of the anterior and posterior nostrils there is danger of its extending through the eustachian tube; the consequence of which may be suppuration and the escape of matter through the external ear; and the disease may even extend itself through the petrous portion of the temporal bone to the membranes of the brain or to the brain itself. In cases of secondary symptoms of syphilis an offensive discharge often takes place from the posterior nostrils.

In what is called cynanche, in its different forms, there is an increased secretion of mucus.

There is an increased flow of the natural secretion from the parts when the tonsils and adjacent mucous membranes are inflamed.

In inflammation of the pharynx the patient expectorates small patches of sticky mucus in the morning.

In inflammation of the larynx there is slight expectoration, which when it is spit up runs into one uniform fluid. When the inflammation is chronic the expectoration is generally copious. Occasionally there is an expectoration of coagulable lymph in what is called croup; and sometimes the coagulable lymph is moulded to the form of the bronchia.

I had a patient who was labouring under that form of inflammation which is commonly called croup, and who expectorated a piece of coagulable lymph, forming a mould of the air passage. This is what Laennec has called the bronchial polypus: it occurs occasionally.

When the bronchial lining is affected there is a copious secretion of mucus, which in slight cases is transparent, in more serious cases opaque, and running together when spit into a vessel.

In inflammation of the pleura there is generally at first no expectoration; but when the patient does expectorate it is a transparent glairy mucus, mixed with a little froth, and scanty in quantity. This may be called the pleuritic secretion.

In inflammation of the lungs you have what may be called a pneumonic secretion. It is a very tenacious secretion, like glue, in small patches, and of a yellowish or greenish hue.

Another kind of expectoration may be called the phthisical secretion. This is generally spit up in small patches, which adhere to the vessel into which they are expectorated. Each patch is about the size of a small cockle, and appears to be composed of mucus, pus, and a little curd-like matter.

The different kind of expectoration, then, will point out to an accurate observer whether the lungs, bronchia, or pleura, &c., are inflamed.

Sometimes blood is secreted or effused; and this may arise from various causes. The most common is an overloaded state of the vessels of the bronchia. Sometimes it is from disease of the heart and large vessels; sometimes it arises from tubercles, which interrupt the circulation; sometimes from the pressure of an enlarged liver on the lungs; sometimes it arises from universal plethora, as in pregnant women.

8. When the Respiratory System is in a healthy condition there is no uneasy sensation in the parts connected with it. But the contrary is the case if the respiratory system be disturbed.

The most common description of uneasiness is pain. This may occur in the interior or posterior nostrils; or in the cheeks in the antrum; or in the forehead connected with the sinuses, which is very common in catarrh.

You may have pain in the larynx; or you may have pain in the lungs.

In inflammation of the lungs it is generally a dull pain; but whether it be acute or dull, it is invariably increased by a deep inspiration or by coughing.

It may be in the pericardium; and this is generally an aching sort of pain.

It may be in the pleura; and then it is generally a stitch.

Sometimes the uneasy sensation consists of a catch in the breath; for instance, a patient in taking a deep inspiration suddenly stops with a catch. This constantly attends severe attacks of inflammation of the pleura. When the patient has been lying comfortably on one side, he breathes with great difficulty and begins to cough if he turns to the other side, in some cases; and this indicates disorder or disease on that side.

Sometimes the feeling is one of general uneasiness or tenderness over the chest, from an obscure inflammation of the pleura.

There may be a sensation of tightness or fulness when the substance of the lungs is inflamed.

There may be a sensation of fluctuation in the chest from an effusion into the pleura.

There may be pain produced on deglutition; connected with inflammation, seated either in the tonsils, in the pharynx, or in the mucous membrane of the air passages lower down.

Occasionally it is an undefined uneasiness, especially in old persons. An old individual tells you that he has an indescribable sort of uneasiness, especially on eating and drinking; and at the same time it happens very often that while he is eating and drinking he suddenly begins to cough. This arises from the epiglottis not performing its functions well.

A gentleman was called to see a child that had died very suddenly; and upon opening the air-passages he found a portion of cheese, very small, which the nurse had put into its mouth, and which had stuck in the rima glottidis, so as to produce suffocation. This was a child at the breast, and shows the impropriety of giving solid food to infants, in whom the epiglottis often does not perform its functions sufficiently well to prevent food passing into the larynx.

It shows, too, that old persons should be careful not to indulge in talking during their meals, for the epiglottis is very apt in them not to act properly. When a patient is extremely exhausted by any disease the epiglottis often does not perform its functions properly; and this is a circumstance very important to be remembered. I am sure that I have seen twenty patients, convalescent, who have died from giving them drink improperly. You will see a nurse raise the patient up, and then hastily throw a large quantity of fluid into the mouth. The

patient suddenly struggles violently, makes an attempt to cough, becomes livid in the face, falls back, and dies. Therefore, in all cases of great exhaustion, especially if the lips be dry, wet the lips first, and then wet the tongue with a few drops merely; and then, having moistened the mouth well, give the patient warning, and let him take the fluid gradually.

This often makes all the difference between life and death.

Another uneasy sensation is that of sneezing; and this you would think, perhaps, to be of no consequence.

Sometimes it occurs from a polypus of the nose; sometimes it arises from an affection of the head.

Sometimes it is a very serious symptom if frequent sneezing occur without any local cause.

In children sneezing sometimes arises from foreign bodies in the nose; for instance, a child is playing with some beads, and introduces one into the nose; and this is easily removed by the cautious use of a probe.

In fact, a medical man should make use of all his senses if he wish to be successful. Miss Edgeworth, in her work called "Patronage," mentions a case of a physician who established his reputation by finding out that inflammation of the eyes depended on a foreign body in the nostrils. And this is a very beautiful illustration of the subject. I believe that the principle which was laid down by Sir Isaac Newton is correct with respect to what constitutes genius.

Genius in a medical man is nothing more than the habit of patient observation.

It is really surprising to observe how trifling a circumstance may make the fortune of a medical man, especially in a large town, when great and popular men often make mistakes and overlook circumstances from hurry. When a physician becomes very popular, the sphere of his usefulness may be increased, but the extent of his usefulness is diminished. I know no life so much to be pitied as that of a medical man when he becomes popular, and is hurried from one patient to another, with the conviction that he attends to the case as he ought: there is no life I would so anxiously shun. I would rather exclaim with Pope, "Tie up the knocker, say I am sick, I am dead." A medical man in this state is lost to the whole public, and lost to himself; and he had far better do what he can properly, and do it deliberately. Almost all the errors which I have committed, and almost all the errors which I have seen committed by other practi-

tioners, have arisen from hurry; therefore, I advise you always to be patient and particular in making your observations.

Lastly, in all cases of this kind take a survey of the chest, to ascertain if there be any depression or any jutting out of the ribs, whether there be any tumour of the thyroid gland, or any aneurism of the arteria innominata, or of the arch of the aorta, or any fracture of the ribs.

LECTURE VII.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

IV. SANGUIFEROUS SYSTEM.

In this lecture I shall consider the indications of a sound and of a morbid condition of what I call—

IV. THE SANGUIFEROUS SYSTEM.

The Sanguiferous System might be divided into three parts:—The Heart;—the Veins and Arteries;—and the Blood.

I shall, in investigating this subject, begin with the Heart.

When it is in a healthy condition—

1. The frequency of the heart's action is natural.

This involves the consideration of the pulse; and you must consider what the natural frequency of the heart's action, as displayed by the pulse, is. This varies at different ages in the same individual.

In infancy, during the first year it ranges from 120 to 130.

Again in childhood it is quicker than at manhood.

And again from the age of twenty-one to fifty it is quicker than in extreme old age.

You must recollect too that the pulse is lower in the adult male than in the adult female. In the adult male the average frequency is about 70, in the adult female about 76 pulsations in a minute. Some individuals have naturally a pulse as slow as 60, while others have a pulse naturally as high as 90.

My pulse is generally about 60, and after I have been tranquil for some hours it generally falls to 50.

I have known several females the average frequency of whose pulse has been 90 in health. Anything permanently quicker than this may be accounted a preternaturally quick pulse. When you find the pulse of an adult individual from 80 to 100, or say from 90 to 120, or beyond that, with a skin hotter than natural, it constitutes what is popularly and professionally called Fever.

You must, then, consider whether the quick pulse be attended by a hot skin, by a skin of the natural warmth, or by a cold skin.

If the pulse be quick, with a natural warmth of the skin, it is a strong presumption that there is something wrong in the structure of the heart itself:—I mean if it go on day after day, week after week, and month after month, as it sometimes does.

When the quick pulse occurs with a hot skin, then what is called fever is established in its most perfect or exciting form.

Again, if the pulse be quick, with a cold skin, you may be sure that something is wrong. In the commencement of fever it frequently happens that the surface is universally cold, and that the pulse is preternaturally quick, but small; and then it is a most important object to restore the animal heat. If when an individual is in this state you immerse him in a warm bath, you will often take off this quickness and smallness of the pulse, by equalizing the circulation, and restoring the animal heat on the surface.

Celsus makes an important observation with regard to the pulse, and one which every medical man should recollect, especially in visiting females. If a medical man, for example, at his first visit to a female, feel the pulse, he will often find that it will be 100, 120, 130, or even 160, with no other bad symptom. In these cases you should invariably follow the rule laid down by Celsus.

The moment a medical man enters the room to visit a female she pants and heaves at the chest, and the pulse becomes very quick. But after a time the respiration becomes tranquil; and the pulse becomes natural.

Celsus says you should always feel the pulse twice,—when you enter the room, and again before you leave it.

If you judge from the first impression alone you will very often be deceived.

And then certainly a long face has the effect of quickening the pulse; a solemn aspect often frightens women dreadfully—the heart pants and the pulse becomes quicker.

The pulse may be quickened from organic disease affecting the heart, from tubercles in the lungs, or from extreme morbid sensibility of the nervous system.

All persons who have extreme sensibility of the nervous system have a very rapid pulse. Women frequently complain of a pulse all over—at every part of the body. This depends upon the nervous system operating on the minute capillary vessels so as to produce an universal sensation of pulsation.

Copious abstraction of blood will quicken the pulse even of a person in health; and if you bleed a person in health to-day, to-morrow, the next day, and go on thus, you will produce fever, and on the fourth day the blood will be covered with a thick buffy crust, or, as it is called, the inflammatory coat.

Again, general debility quickens the circulation very much; and this may often be perceived in weak convalescents.

A convalescent patient lies in bed, and desires, day after day, that he may be allowed to get up. At one visit the medical practitioner finds the pulse, in the recumbent posture, as slow as 60, and allows the individual to get up, and at the next visit he finds him perhaps sitting up by the fire, with a pulse of 120, or even as high as 160.

When the pulse becomes thus quickened in the erect posture never allow a week convalescent to sit up long; if you do, the heart partaking of the general weakness, and thus having the frequency of its action increased, the patient is sure to have a relapse of fever.

The rule with regard to convalescents is this:—if when a convalescent is sitting up, you find him with a slow pulse, he is safe; but if you find him with a pulse weak and quick, you must lay him flat, and never allow him to sit up more than a quarter of an hour or half an hour for the first, second, third, or fourth time, so as to accustom him to it gradually.

The pulse may be preternaturally *slow*.

When you have known the natural frequency of the pulse of an individual to have been in health 70, and being called to visit him find the pulse as low as 50 or 60, and especially if it be labouring and irregular, you may suspect that there is some mischief either in the brain, the lungs, or the heart, and should investigate the case accordingly.

You should ascertain first, whether the patient has been taking any medicine which may account for the slowness or irregularity of the pulse. I have been called several times to patients in whom the pulse has been reduced very much by the daily exhibition of digitalis, and has become very small. The same thing may occur from the continued use of antimonials.

Sometimes it is from the exhibition of opium, the opium having gorged the brain with blood which has produced this change in the heart's action.

When the heart is in a natural condition—

2. The force of its action is also natural.

You should endeavour to ascertain what the natural force of the heart is in health.

In infancy the pulse is very soft (as displaying the heart's action) if compared with the pulse of an adult. In manhood, again, it is firm: while in old age it often has a peculiar hardness, which depends most upon a change in the arteries themselves, and not upon the stroke of the heart.

The arteries very often are ossified, and this is a very common cause of a hard pulse in old persons.

Very frequently the force of the heart's action is preternaturally *increased.*

If the pulse be quick and more forcible than natural it is a strong presumption of the existence of inflammation, especially of the serous and fibrous membranes; and then the pulse sometimes feels like whip-cord. If it be larger and rounder it often feels like pack-cord. And if it be smaller and weaker it often feels like the silk which is wound round twine in the cords with which carriage silk blinds are pulled up and down, having still a hard feel. This sort of pulse, especially a bounding pulse, often precedes hemorrhage.

When the mucous membranes are inflamed the pulse is comparatively soft. It often has more tone (if I may use that expression) than natural. If you compare it with the pulse of a patient labouring under inflammation of the serous membranes,—of the pleura, of the pericardium, of the peritoneum,—it is relatively soft when the inflammation is seated in the mucous membrane of the intestines or of the urinary organs.

When the heart is enlarged, and at the same time immensely thickened, the pulse is considerably more forcible than natural. If a patient have a cold skin, with a pulse rather quicker than natural, and remarkable for its hardness and strength, you may suspect that the individual is labouring under enlargement of the heart, with augmented thickness, especially of the left ventricle. And in these cases this hardness and strength of the pulse often cannot be subdued by anything less than actual syncope.

I witnessed a case in which two physicians bled a patient till upwards of 160 ounces of blood had been drawn, for a supposed affection of the lungs. The patient then became dropsical, but still the hard round pulse remained till she died; and upon examination of the body not a trace of disorder or disease was found about the lungs, but the heart was exceedingly thickened. If this patient had

been treated mildly, the probability is that she might have lived on comfortably for years.

You will find in these cases that the heart's stroke over its region has a more extensive impression than natural, and that there is difficulty of breathing, especially upon motion.

Again, the force of the heart's action may be *diminished* below the natural standard.

If you want to understand what I mean by a diminished force of the heart's action, you should feel the pulse of any individual just before he lapses into, or just as he is recovering from, a state of syncope; and you will perceive that the stroke of the heart is remarkably soft and fluent, and that the artery appears to feel almost as if it were made of silk.

The tone of the fibres of the heart, of the veins, and of the arteries, undergoes, no doubt, a very remarkable change. For, on the one hand, certain changes occur which give them a very relaxed feel; while, on the other hand, in other cases they have a hard contracted feel—a sort of jarring pulse. I repeat then that I have no doubt that the tone of the heart and blood-vessels may be, and is, increased or diminished in some instances. When the heart's action is apparently diminished in force as regards the pulse, always ascertain whether the stroke of the pulse corresponds in force to the stroke of the heart in its proper region. For in some cases there is a feeble pulse at the wrist, while at the region of the heart you feel that it has an exceedingly powerful stroke. But in order to feel the stroke of the heart well you must lay the individual on his back, but you must bend the trunk a little forward, so as to throw the apex of the heart forward. With the body in this position, if you place your hand over the heart you will sometimes feel that its force is very strong, while at the same time the pulse at the wrist is very feeble.

When the stroke of the heart is excessively great it is an indication that you may abstract blood very freely.

It was from this circumstance that Laennec supposed that the arteries had another action independent of that of the heart: this, however, seems to be a fallacy; for in almost all these cases you will find the heart's action irregular; and the blood not leaving the ventricles as usual, the consequence is a stroke, indicating diminished force, at the wrist.

The force of the heart's action may be diminished from various causes.

It may, for example, be diminished in acute diseases.

It is very often diminished from venous congestion. Venous blood accumulates preternaturally in the internal parts, especially about the right side of the heart, and about the vena cava superior and the vena cava inferior; and in these cases there is not only a surplus of blood on the venous side, but there is at the same time necessarily, demonstrably, a deficiency of blood on the arterial side; and this want of blood in the arterial side is the cause of the diminished force of the artery, because, if you restore the equilibrium between the arterial and venous systems the diminished force of the heart's action will disappear. When the force of the heart's action is diminished and the skin is universally cold it constitutes congestive fever; and the point of inquiry then is, whether the blood is equally distributed through the veins, or whether it is distributed so partially through the veins as to interrupt the functions of some particular organ.

If the blood be equally distributed through the whole venous system without an excess in the vessels of any part in particular, then the patient makes no complaint, because no part is so gorged as to have its functions disturbed.

But if the blood be once accumulated in any particular organ, so that the equable distribution of blood through the venous system is destroyed, then the functions of that organ become interrupted or impeded from venous congestion.

Towards the close of fever the force of the heart's action often becomes diminished; and then you must take into account the other symptoms. If inflammation of the brain occur, the pulse in its progress is generally harder and quicker than natural, till the affection reaches its acmé. After this period the heat falls on the surface, and the heart's action is less forcible than natural; and, in other words, there is a cool skin with a feeble pulse. When you find a patient in this condition, with no other bad symptom, it is to be considered a favourable circumstance. But if, notwithstanding that the heat has fallen, and the pulse has become feeble, the local disturbance increases, it is always an unfavourable indication.

Towards the close of almost all inflammations, it happens that the skin becomes cool, the pulse feeble, and the local disturbance increases; or otherwise it is merely the collapse after excitement which exists, without any great local disturbance.

Sedentary persons are very liable to have a diminished force of the action of the heart, especially sedentary mechanics.

The force of the heart's action may be increased by mental excitement, or diminished by mental depressions.

A diminution of the force of the heart's action sometimes attends organic affection of the heart.

I saw a patient about a fortnight since with a remarkable soft pulse. He had no obvious preternatural degree of palpitation in the left side of the chest, in the region of the heart; from which, and from his respiration becoming remarkably affected on motion, I inferred that he had a diseased heart, and that in all probability his heart was softened. This patient went on in this way for some days, and one day he suddenly died. The body was examined, and his heart was found enlarged and so soft that it was readily ruptured with a slight touch, even although the body was examined but a short time after death. There was a deposit of lymph effused into the substance of the heart, and a deposit of cartilage about the valves of the left ventricles and about the curvature of the aorta, clearly the product of chronic inflammation.

The circumstances then which I have mentioned are strong presumptive evidences of thinness of the heart, which is joined generally with softness. These cases are connected with chronic inflammation.

When the heart is in a natural state—

3. The regularity of the heart's action is uninterrupted.

But in some of its disordered and diseased states the contrary to this obtains. There are four conditions of irregularity of the heart's action as displayed in the pulse.

The first kind of irregular pulse may be called—

1st. Oppressed.

This is a kind of pulse which is very difficult to describe in words, although it is so peculiar I can readily recognise it. It gives one the idea as if the heart were struggling to throw off some superincumbent weight, or as if a weight were pressing upon a spring which was reacting to endeavour to throw it off. This state of pulse frequently precedes apoplexy. It frequently depends upon congestion of the heart, the lungs, the brain, or the liver. It almost invariably happens that this oppression or obstruction is removed by bleeding, and it seems to indicate, as it were, the necessity for it.

The pulse may also be—

2d. Intermittent.

When it is perfectly regular, you have sixty or seventy strokes in a minute. But when it intermits, you may count the pulsations, say, one, two, three, four, and then you lose the fifth; there is an intermission of the pulse between perhaps the fourth and the sixth beats.

In other cases the intermission is at the tenth, twelfth or twentieth beat, so that in fact there is a loss of a stroke ever and anon.

This intermission of the pulse attends various conditions.

I recollect that when I was a young physician this would have alarmed me exceedingly, for I thought it must depend upon organic disease. But now if I were to observe an intermittent pulse, I should set about investigating the circumstances accompanying it.

It is extremely common to meet with it in weak convalescents, on sitting up, from the heart partaking of the general debility; and in these cases it is of no consequence provided you do not allow the individual to sit up too long. In these instances you should be careful, as it were, to secure the strength by avoiding all demands upon it; by which means, and by a little wine, with a nutritious diet, this state of the pulse will be removed together with the debility.

Another frequent cause is disorder of the stomach, liver, or colon: indeed, this is the most common cause.

When it occurs with a furred tongue, unnatural stools, or with overloaded, large intestines, be careful not to pronounce an opinion that it depends upon organic disease; for the intermission of the pulse will cease by removing the disorder of the stomach, of the liver, or of the bowels. If the tongue be loaded you need hardly ever fear that this symptom depends upon organic disease.

I know many persons, especially ladies, whose pulse becomes thus disturbed from a foul stomach, from an overloaded colon, or from a disordered state of the liver.

Many medical practitioners have a pulse thus disturbed without any organic disease. A medical man, for example, finds that his pulse intermits, and he becomes very much alarmed at it; whereas, if he had observed it in any other individual under the same circumstances, he probably would not have been in the slightest degree frightened at it.

But sometimes an intermittent pulse does attend organic affections of the heart, and then you will have other symptoms which indicate such organic change. If you come to observe minutely, you will find that in this case there are very distinct symptoms of organic affections which are entirely absent when the intermission depends upon any other cause. The late Dr. Baillie thought that adhesions in the bag of the pericardium often were a cause of an intermission in the pulse. Though I entertain great respect for the opinions of Dr. Baillie, yet I believe that in this opinion he was mistaken; at least, I have seen several instances of such adhesions in individuals in whose pulse

during life I never had observed any intermission ; and I believe that if it be a cause of an intermittent pulse, it is an extremely rare one.

The heart's action may be—

3d. Inordinate.

It may be quick for three strokes at one time, and then there may be three slow strokes ; or there may be first two or three strong pulsations, and then two or three remarkably weak pulsations, succeeded by two or three strong pulsations ; and so on.

This kind of pulse very frequently attends the same states which give rise to an intermittent pulse.

It occurs, for example, in weak convalescents after fever.

It arises sometimes from disorder of the stomach, of the liver, or of the bowels.

Sometimes it attends organic disease of the heart ; but then you will have other symptoms existing, and making the presence of such organic affection.

Let me again recommend you never to draw an inference from any one symptom of a case, but to take into account all the concomitant symptoms and circumstances ; and this observation is especially applicable with regard to the state of the pulse.

The heart's action is sometimes—

4th. Suspended.

Sometimes it is suspended by mental emotion. A lady, for instance, hears some distressing news : her husband is in the army,—he falls in battle ; the moment she hears the sound she faints ; the heart's action falls, and in this state she continues for some time.

It may arise also from the loss of blood.

A fillet is tied round an extremity, and a vein being opened, a large quantity of blood is suddenly abstracted, and the individual faints, in consequence of the loss of the accustomed stimulus to the vital organs, especially the heart and the brain.

Sometimes fainting arises from an internal hemorrhage ; and whenever you see a patient become faint and pale without any apparent circumstance to account for it; you should be very careful to ascertain the cause.

It may arise from internal hemorrhage, especially from the intestines.

Sometimes it arises from organic affections of the heart, and particularly from softening of the heart.

You must ascertain then, if possible, whether it be connected with some serious disease, or only with some slight disorder.

It is often connected with hysteria. The hysterical state is strictly nervous. At one visit, for instance, you will find a patient struggling in convulsions; at another she lies as still as a piece of statuary; at another she is in a state of silent melancholy; in another she lapses into syncope. In short, the symptoms are constantly varying.

When the heart is in a healthy state—

4. The sounds emitted by the heart are natural too.

But when the structure of the heart is changed, the sounds emitted by the heart are not natural. The stethoscope or cylinder is applicable in the diagnosis of diseases of the lungs, and also in that of diseases of the heart. If you wish to apply it to the heart, you must make use of that part of the cylinder which enables you to concentrate the sound.

If you wish to recognise the sounds of either auricle, or either ventricle, you must hear them in a perfectly healthy subject, in order to be acquainted with the healthy sounds in the child and in the adult.

Then comes the inquiry whether, by this method, you can distinguish the disease of the heart; and this may certainly be done, provided the ear be properly educated.

I have no doubt that you may thus tell precisely the diseases of the heart, naming, in each case, both the kind and the situation of the disease. I have acquired some tact in the use of the instrument, but not so much as one friend of mine, who has a musical ear, possesses. I have, however, no doubt, that after my ear has been further educated, I shall be enabled to give an unequivocal and precise opinion in cases of disease of the heart.

A gentleman told me that he had seen Laennec use the instrument a great many times, and that Laennec was only wrong once or twice out of a hundred opinions, which opinions were recorded in a book before death, and confirmed by *post mortem* examination; and this is, in fact, the proper way of proceeding.

The French attend very much to, and connect very accurately, the symptoms and pathology of diseases; and, generally speaking, their diagnosis is no comparison better than ours, except with regard to those individuals in our own country who take up the thing properly, and connect the symptoms with the appearances on dissection, as the French do.

The French have acquired very great precision in the diagnosis; but they seem as if their only object was to find out the disease, without any reference to its relief or cure; for their treatment of diseases is most miserable.

Sometimes the sound of the heart is changed (the stroke of the heart being also changed,) in strength, in extent, and even in kind.

If the substance of the heart be very much increased the extent of the sound is much greater than natural; it is much stronger than natural, and it emits a different sound. If the substance of the heart be thinner and softer than natural, the sound is more clear, more soft, and more fluent, than natural.

If the valves of the heart be ossified there is a very peculiar sound, which Laennec compares to the sound produced by the compression of a pair of bellows. I have often heard this sound produced by the whizzing of a toy which the boys have, and which is called a whiz-gig. Sometimes there is a cooing noise, like that of a turtle dove, very distinct.

A gentleman occasionally calls on me whose heart emits a sound very much like that of the cooing of a dove. I have no doubt that he labours under enlargement of the heart with ossification of the valves. The sound is so distinct, that if I lay my hand over the region of the heart I can hear this cooing noise, which is conveyed along my arm to my ear. It is just like what you would imagine the cooing of the turtle dove would be if confined within the chest. Now, if this were a poor man, who had a mind to make his fortune, he might easily make all the old women believe that he really had a live turtle dove within him.

In certain organic affections of the heart sometimes there is a very peculiar feel—an emphysematous feel—in the carotid and subclavian arteries; it is also felt in the wrist. The artery feels exactly as if air were collected in the cellular connecting membrane of its coats. Laennec supposes that air really is so collected. When it occurs, it generally attends organic affection of the heart, but not always.

When the heart is in a natural state—

5. The respiration is not defective or difficult on motion. You must take into account the influence which motion has upon all cases as to the respiration. If an individual walk or run, the respiration is always more or less affected. The muscles, in their action, press upon the veins; and the return of the blood to the right side of the heart is thus impeded. The heart consequently contracts more frequently than natural; and, by a law of the animal economy, which always tends to preserve a certain relation between the action of the heart, and the respiration, the breathing is necessarily increased in frequency.

In almost all diseases in the bag of the heart the respiration is affected upon motion.

In ossification of the coronary artery there is a defective force in the heart's action, with difficulty of breathing on motion.

In affections within the bag of the heart, there is difficulty of breathing when going up-hill, or up-stairs; and upon resting a short time this is wholly removed. This forms, when it occurs, a strong presumptive indication of some disease in the bag of the pericardium.

Having made these observations in reference to the Heart, I shall now pass on to the Veins and Arteries.

When the veins and arteries are in a natural condition, with regard to their contents, the due relation between these two systems with regard to the quantity of blood exists; and—

1. The natural equilibrium between them is not disturbed. In health there is a beautiful balance between the right and left sides of the heart. The right side of the heart refers to the venous system, with its vessels; and the left to the arterial system—if we except the pulmonary artery, which has a sort of intermediate character.

If there be an excess of blood on the venous side there is generally an universal coldness of the surface; and then if there be no disturbance of the functions of any one organ, you may be quite sure that the blood is equally distributed throughout the venous system. But if the functions of the brain, of the heart, of the lungs, or of the liver, be distributed, you may be certain that there is a surplus of blood in the veins of that organ; and there is by consequence a deficiency on the arterial side. This is the case in the first stage of all fevers arising from depressing agents. And those are the most serious cases where the surplus of blood is so great on the venous side as to interrupt the functions of an important or vital organ.

Another state which exists might be called Simple Excitement; and this may be either local or general.

This state which I term simple excitement differs from inflammation.

For instance—blushing is an example of Local simple excitement; which is a state distinct from inflammation; the capillary vessels being merely increased in size temporarily, so as to admit the red particles.

Another state I call General simple excitement; when the blood circulates more rapidly than natural through all parts of the body, without any sign of interruption to the functions of any one organ.

This state we can easily produce, either by running, or by mental emotion, &c.

Another condition of the circulation is what is called Inflammation, in which, as I shall afterwards endeavour to prove, there is some interruption to the circulation of the blood in a particular organ.

In inflammation both the large veins and arteries leading to and from the part, and the capillary vessels, are overloaded with blood, partly from a change in one of their physiological laws.

The vessels have, after death, the property of elasticity; and during life they have also another property, namely, that of contractility, by which they accommodate themselves to the quantity of their contents. By this power they contract when the caloric of the blood is diminished, and by consequence the volume of the blood is diminished; and they contract also when blood is abstracted from a vessel by the lancet or naturally.

And if these two properties, of elasticity and contractility, did not exist, the circulation of the blood could not be carried on; for the stroke of the heart would be so great as constantly to endanger the bursting of the vessels.

Occasionally inflammation does occur in the vasa vasorum, or vessels by which the arteries and veins are fed.

I have never seen the coats of an artery or vein inflamed without some other organ being inflamed; and this state most frequently occurs in low or typhus fever. It exists most commonly in the veins.

You must not confound with this inflammation a dye of the vessels which is occasionally observed. It is not true, as generally stated by physiologists, that arteries do not contain any blood after death; for the large arteries adjacent to the heart mostly contain some blood. And as the blood does not always leave the arteries after death, it sometimes produces a red stain or dye in the vessel, which you might suppose to be a proof of the previous existence of inflammation. But if you examine the parts accurately—for example, with a microscope—in inflammation you will see that the lining membrane is raised, with an effusion of serum under it; and, with a microscope, the vasa vasorum will be seen ramifying over the internal membrane of the vessel.

When the veins and arteries are in a healthy condition there is—

2. No unnatural hardness or dilatation.

Hardness and dilatation sometimes occur when they are not in a natural condition.

Hardness sometimes arises from a spasmodic action of the heart; and dilatation sometimes arises from a surplus of blood.

Therefore this state of hardness and dilatation may often be produced without any organic disease; but there often is some organic mischief or other.

Depositions often take place in the coats of the aorta—especially at the arch, and also just where it leaves the left ventricle. The arch of the aorta and the arteria innominata are especially liable to become enlarged.

In old persons osseous deposits in the arteries are almost always found.

The veins very frequently become varicose, especially in individuals who work hard, and who stand long upon their legs; and you find dilatations of them, and depositions in them, as in the arteries.

These generally arise from inflammation, or from increased force of the action of the heart, produced by hard labour; or from a plethoric condition of the vascular system generally.

Sometimes varicose veins seem to be the result of mercury; especially a varicose state of the vena portæ.

A friend of mine has often found the vena portæ varicose, with a grey granulated state of the liver, after the abuse of mercury.

The next division of the Sanguiferous System consists of the Blood.

When the blood is in health there is—

1. No unnatural quantity of blood, general or local.

Now nothing is more common in civilized life than a general plethora. And the same thing occurs also in savage life. Savages are remarkably liable to organic diseases of the heart by gorging themselves with food, by which they induce a general plethora.

A general excess of blood in the vascular system sometimes takes place in children who have large appetites; they become full and florid in countenance, and have a very expanded pulse.

But the state of general plethora is far more common after forty years of age; for then most individuals become less active than before; there is less waste, consequently, by secretion; the bowels become slow; while at the same time they indulge themselves very freely both in diet and drinks.

These individuals are liable to apoplexy or to hemorrhage. They almost always have a full face, and a pulse so expanded and labouring, that it seems to speak for itself as to the necessity of abstracting blood. But you should distinguish this from a false fulness of blood. Some-

times the heart acts on the blood with a sort of jerk, giving a deceptive feeling of fulness of blood. If you press on the pulse of an individual who is the subject of general plethora, and continue to make the pressure on the artery gradually, you can stop it. But when this false fulness exists it resists your finger at first; but immediately afterwards you can compress the artery without any resistance.

Local plethora is also a very common circumstance in civilized life.

There is naturally a beautiful balance in the quantity of blood in one and another organ. But it frequently happens that this balance is disturbed; but that still a deficiency of blood which exists in one organ is compensated by an excess in another organ.

It frequently happens that there is a deficiency of blood in the vessels of the skin; and the consequence is, an increased action of the kidneys, which perform as it were the functions of a pump, and carry off a quantity of fluid which the skin is unable to throw off; otherwise it would very often happen that the vessels, being overdistended, would burst.

It is very well known, that more urine is secreted by the kidneys in the winter than in the summer, when more fluid passes off by the skin.

Whenever the secretion of the skin is diminished or interrupted, there is very often some disorder of another part connected with it.

In the attack of dysentery which I had, my skin, which is naturally very soft, became dry and harsh, and the urine became remarkably scanty. Here were two secretions very much diminished; and the consequence was, an increased secretion from the whole surface of the mucous membrane of the colon. As the disease abated, the functions of the skin and kidneys became natural.

In the same way, in almost all serious affections, you will find that this nice balance between the quantity of blood in different organs which naturally subsists is destroyed;—most frequently between the skin and internal mucous membranes; sometimes between the brain, lungs, heart, and liver.

When the blood is in health there is—

2. Nothing unnatural in the quality of the blood.

But in many cases of disorder there very often is a remarkable change in the quality of the blood.

In bronchitis, whether it arise from a common occasion, or whether it arise from any special agent, from marsh miasmata, from epidemic constitutions, from the human contagions, or from the introduction of putrid matter; in these cases, if the bronchial lining be smeared with sticky varnish, there is a muddled state of the mind; and the muscles

also are affected, from a change in the blood,—a change which is demonstrable in the vessels, as it is seen circulating in them over the cheek. From the change of the blood, too, there occur exudations of blood, or a sweating of blood, from the great fluency of blood produced by a change in its constitution, by which the relation between it and its vessels is lost. In these cases I have spent two or three hours in vain endeavours to find out some rupture of a vessel; and I am confident, that in many of these examples there is no rupture, but that the blood transudes, as Celsus described it, *per ora venarum.*

But you must recollect also that the influence of the velocity of the blood's circulation affects its constitution. When the blood flows quicker than natural there is a buffy coat.

The buffy coat is not an essential part of inflammation, but may exist without any inflammation at all.

The diet also changes the quality of the blood.

Take two individuals, for example, and examine the difference in the quality of the blood. Take one of the well fed servants of London, with a ruddy cheek and a full bounding pulse, and if you abstract from this individual a quantity of blood, you will find that it shows a redundancy of red particles, and is what old nurses call remarkably rich blood.

Then take one of the pallid individuals who reside in the cellars of London, and live on vegetables and tea, and having drawn blood from his arm, contrast it with that of the sleek servant before described, and here you will find a deficiency of red particles of blood.

In scurvy you have another proof of the remarkable change which diet has upon the blood.

It seems to me that many medical men prescribe from principles deduced from analogical reasoning, and that great errors are committed thus: for instance, they reason analogically with respect to diet, and tell us that we should accord our views to the habits of animals: and really this is very absurd—if we were to follow up this principle, the inference to which it would lead would be highly ridiculous. From reasoning of this kind, if a patient were to consult me about a disorder, I might say to him, "What a fool you must be to come to me to cure you with your unnatural habits: why don't you go upon all fours, and eat grass and thistles, as horses and asses do?"

The solids are affected by the food very remarkably; and a mixture of vegetable and animal food seems best, for after confinement to either animal or vegetable food for some time the quality of the blood becomes changed.

In scurvy, for instance, from the long continued use of dried salt provisions the whole mass of blood is affected, and becomes so fluent as to transude through the vessels, in consequence of the relation which naturally subsists between the vessels and the particles of blood being lost.

When the blood is in a healthy condition—

3. There is nothing unnatural in the secretions of the blood. But in disorder and disease there very often is something unnatural in the secretions.

Take small-pox, measles, and scarlet fever, and you will find that there is something given off by the body which, when taken into the stomach or into the lungs of another individual, will affect him with a like disorder.

This is a strictly humoral change.

There are also other poisons which affect the blood. There is no doubt that the blood is affected by marsh miasmata; but whether the blood then is enabled to give off any thing which will in another produce the same affection we want further facts and experiments to enable us to decide.

Particular secretions of the blood are sometimes effected. The secretion of bile is often changed; and so is secretion of urine. In scarlatina the secretion from the nose is sometimes so acrid as to excoriate the upper lip, and the secretion from the intestines is sometimes so acrid as to excoriate the parts about the perineum.

You frequently have depositions taking place in the secretions. Sometimes pus is secreted, sometimes serum, sometimes tubercles, and sometimes even a stone.

We have abandoned the humoral pathology very absurdly; for it is of very great importance to attend to the condition of the fluids. I have thrown out these few hints respecting the subject in order to direct your attention to it. There are more secrets by far in the humoral pathology than in our philosophy.

LECTURE VIII.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

V. CONCOCTIVE AND ABSORBENT SYSTEM.

In this lecture I shall make some remarks upon the indications of a sound and of a morbid condition of what I call—

V. THE CONCOCTIVE AND ABSORBENT SYSTEM.

This might be divided into three parts for the sake of convenience.

1. Œsophagus, Stomach, Small and Large Intestines.
2. Lacteals, Mesenteric Glands, Thoracic Duct, and Lymphatics.
3. Liver, Pancreas, and Spleen.

These are the several parts which are mainly concerned in the Concoctive System; but there are also other parts which are intimately connected with the process of concoction, especially the nerves.

You know that if the eighth pair of nerves be divided the process of digestion is completely at a stand.

The Abdominal Viscera is fitted, and intended, for the formation of chyle.

The Respiratory System is fitted, and intended, for the assimilation of the chyle, and the perfecting of the blood.

The Sanguiferous System is mainly fitted for the perfecting of nutrition, by the circulation of the blood through all parts of the body, so that all its secretions may be properly performed.

These three systems,—the Concoctive, for chylification; Respiratory, for assimilation; and the Circulatory, for nutrition,—are intimately connected together; and the probability is, that there is some nervous fluid secreted from the blood in the same way as other fluids are secreted from the blood. For the facts, that muscular motion depends upon the nerves, and that digestion depends upon the nerves, show that there is some such thing as a nervous fluid; and call it what you may, it may be fairly supposed to be the result of arterial blood coming in contact with nervous matter; for we see, that in all cases where the pro-

per decarbonization or oxygenization of the blood is prevented the muscular powers fail.

To pass on, however, to the morbid and healthy indications of the Concoctive System.

When the Concoctive System is in a perfect state there is—

1. No impediment to the passage of the food or fæces.

But in some cases there is an obstruction to the passage either of the food or of the fæces; and then the cause may be very various.

I knew a gentleman once who was liable to attacks of spasm in the upper part of the œsophagus, which used to continue for hours, so that he could neither swallow the smallest crumb of solid food nor a drop of fluid. This spasmodic stricture of the upper part of the œsophagus was generally to be relieved by a hot bath, which was used so as to produce a complete relaxation.

In certain affections these spasmodic attacks of stricture at the upper part of the œsophagus are secondary; for instance, in hydrophobia

The same thing also occurs in tetanus, so that the patient is unable to swallow any fluid without an attack of convulsions.

I have known the same thing occur in chorea; and I have also observed the same thing temporarily in hysteria.

Stricture sometimes, though rarely, occurs at the upper part of the œsophagus, as the product of inflammation; and it is worthy of remark that this inflammation is almost always symptomatic of some disorder of the stomach, liver, or bowels.

I distinctly recollect at this time two cases which I have seen, in one of which the stricture yielded to the antiphlogistic treatment which was adopted. I believe that you generally will find that strictures are the gradual products of inflammation, if you except the spasmodic stricture which I have alluded to.

But the most common sort of permanent stricture of the œsophagus is near the cardiac orifice of the stomach. But stricture sometimes takes place about the pylorus, and it may take place in any part of the course of the intestines.

Sometimes it is apparently from gall-stones.

I attended a lady who apparently died of an attack of enteritis; before her death she passed a kind of white looking stool, plainly showing a deficiency of bile; and shortly before her death, too, she vomited a quantity of stercoraceous matter, evidently mixed with bile; and this clearly showed that some mechanical obstruction existed. Upon examining the body after death there was found to be a gall-stone stuck in a portion of the ilium, which was inflamed above, but not below, the

gall-stone. This had obstructed the whole caliber of the intestines, which was firmly closed around it.

Sometimes tumours form in the intestines and create some impediment to the passage of fæces.

I saw a lady who had for a long time laboured under attacks of colic, and then had an attack of acute inflammation, of which she died. Upon examining the body a tumour was found in the intestines, which had occasioned these spasmodic attacks, and which had ultimately completely blocked up the canal.

Sometimes the mechanical impediment is what is called a hernia.

A portion of the intestine makes its escape from the cavity of the abdomen, and it undergoes a stricture, so that the fæces are prevented passing through the canal.

Whenever you are called to any patient labouring under symptoms of inflammation of the belly, always be certain to examine the groin, to ascertain whether there be a hernia.

I have met with at least a dozen cases of strangulated hernia, which have been treated merely as cases of simple inflammation. Therefore, in all cases where you have evidences of inflammation of the belly, examine the groin in order to ascertain whether there be a femoral or an inguinal hernia; for I repeat that I have known at least a dozen instances in which, from a neglect of this caution, the patient's life has been lost under the existence of hernia in a strictured state.

This is more especially the case in females. If you ask a delicate female whether she has any tumour in the groin, she will answer in the negative; she will tell a falsehood upon the subject from a feeling of delicacy. Therefore never take the word of a female upon this subject, but make an examination.

Sometimes the mechanical impediment is in the rectum.

The rectum is subject to temporary stricture from spasm, and this is by no means uncommon.

A spasmodic affection of the sphincter ani, and of the lower part of the rectum, is exceedingly common from an overloaded state of the colon; and it is very liable to be mistaken for a permanent stricture. Before pronouncing an opinion that a permanent stricture of the rectum exists, always ascertain that there is not an overloaded state of the colon: and if there be remove it, and you will often remove the stricture, if it be merely temporary. Sometimes the stricture of the rectum is permanent, but I believe this is by no means so frequent as surgeons seem to imagine; at least I have not seen it so frequently as they describe it to exist.

But it sometimes does occur; and then most frequently it is within reach of the finger, if one have a tolerably long finger. It hardly ever takes place six inches above the sphincter ani.

Piles are sometimes a cause of impediment, and these are various. Sometimes they arise from varicose veins; sometimes they consist of a series of vessels communicating together; and sometimes they consist of extraneous growths from the mucous membrane of the rectum.

Again, the impediment may arise from intus-susception. This, I believe, sometimes takes place from inflammation, and one portion of intestine is folded within another. Intus-susception, however, occasionally takes place in the agonies of death.

Sometimes the impediment arises from an enlarged prostate gland; and when this is the case there occasionally is a feeling after each evacuation as if something still remained to be passed. This feeling is a very suspicious circumstance in old persons.

Sometimes the impediment arises from an enlarged uterus.

Now since the cause of the impediment is so exceedingly various, you will perceive that the safety of the patient will frequently depend upon the practitioner's knowledge of the precise condition upon which the obstruction depends. I merely throw out these observations on some of the causes of impediment to show you how minute a medical man ought to be in his investigation of every case.

When the Concoctive System is in a healthy state there is—

2. Nothing unnatural in the number or nature of the evacuations.

1st. The number of fæcal evacuations, you know, varies at different periods of life.

A healthly infant ought to have two evacuations each day; and they are much more loose than those of an adult, and of a lighter colour.

In very old individuals the bowels are generally torpid; many aged persons having only one evacuation in two days, and seldom more than one in each day, and that more sticky and scanty than at adult age.

You must take into account the natural colour of the stools. You should always consider the healthy state, and contrast it with the state that exists, in order to know whether there be any morbid change.

Therefore I repeat you must first ascertain the natural colour of the evacuations. Some have described it as the colour of rhubarb wetted with water, others have compared it to turmeric, and some to virgin gold; but the best way is to look at it if you wish to know its natural colour.

You must remember that if an evacuation be kept for some time

it becomes very dark indeed from exposure to the air in an open vessel ; and unless he took this circumstance into account a medical man might be very apt to be deceived as to the healthy condition of the evacuations.

The consistence of the evacuations is of importance in many cases.

There is a certain healthy consistence, and any deviation from that consistence is a sure indication of something wrong. There is a natural smell in a healthy evacuation which is peculiar.

All these, then, are very important : and even—

2d. The size of the evacuations is very important.

Sometimes you may detect stricture or piles from an unnatural size of the evacuations. In a permanent stricture of the rectum, the evacuations are almost invariably twisted like a cork-screw ; but recollect that the same also occurs occasionally from a temporary stricture.

3d. The colour of the stools is important.

When there is a deficiency of bile, the evacuations sometimes are of the colour of lime, of pipe-clay, or of slate.

When there is an excess of bile, the stools are deeply tinged of a yellow colour, and are generally looser than natural.

The bile may be depraved, and then the colour varies ; sometimes it is as dark as tar ; and then it may be distinguished from blood by holding it to the light, or by mixing it with water.

Or the evacuations may be like melted resin. This very often is the case in typhus fever.

Or sometimes they are green in colour from the same cause.

You must take into account the influence of diet, and the influence of certain medicines, upon the colour of the evacuations.

If an adult live upon a milk diet there will be apparent deficiency of bile in the evacuations ; and if you were not aware of this circumstance you might presume that the liver was disordered, and put the individual very unnecessarily under a course of mercury. So, too, if you inferred from the green appearance of the evacuations that the liver was disordered so as to require the use of mercury, you might be mistaken ; for this green colour of the stools might be produced by mercury. A glairy green appearance of the stools is very frequently indeed produced by mercury.

Again a curdled appearance of the stools is a very common effect of the exhibition of mercury. Another kind of stool which is very common from mercury is one which very much resembles mock-turtle soup.

Now you might think that this is of no consequence, but it really is

of immense importance, especially in London. For instance, a dose of mercury is given, and the stools are examined, and to some men the conclusion is irresistible, that because the stools are of a morbid appearance mercury must be requisite to correct them. A medical man, therefore, exhibits mercury for a supposed disorder of the chylopoietic viscera, especially the liver; and thus the unnatural state of the stools, which was first produced by mercury, is afterwards maintained by mercury. I recollect I once saw a lady who had been for several months undergoing courses of mercury: the blue pill was continued to correct the stools, till she was reduced to a skeleton, and was rendered so nervous that an angry look made her shed tears, and if the door were suddenly opened she started, and was excessively agitated. The blue pill was left off, and the natural appearance of the stools soon returned. I recollect I saw a case in which four grains of calomel were given every six hours, and produced stools very much resembling mock-turtle soup; I told the medical man that the exhibition of the mercury was the cause of the unnatural stools. The mercury was left off, and the stools again became natural.

If you neglect to pay attention to this circumstance you may entirely destroy the health of an individual. Thus the exhibition of mercury day after day, with a cool skin, is one of the most destructive practices with which I am acquainted. There is now a work, written *ad captandum*, in which it is laid down as a rule, that mercury is to be continued as long as the stools are unnatural. If you were to follow this advice, and give mercury day after day, and week after week, you would very often commit a serious error, and ruin the health of your patient.

If you have any doubt of the unnatural appearance of the evacuations in any case, omit the mercury, and omit all medicines for a few days, and see whether it depends upon the exhibition of mercury.

If any man in health have his mind constantly and entirely engaged, you will find that the stools will undergo a great change. No man can have observed the influence of mental emotions upon the functions of the body, without having noticed the changes which the state of the mind produces in the secretions and excretions—as the fæces.

The incautious and indiscriminate use of mercury is a great and a growing evil, in this town especially, where there is as much fashion in physic as in fitting out the shops in Bond-street.

There are also other medicines which produce a change in the appearance of the stools.

Iron changes the colour of the evacuations to black.

A friend of mine cured a hypochondriac patient by turning his stools black with iron. This patient had been from one doctor to another, but still he said he was no better. My friend said to him, "These doctors have all entirely mistaken your case. I can very soon cure you. Your complaint arises from some black matter in your bowels which wants to be purged away." He gave the patient some sulphate of iron, and made his stools as black as ink; and then he gave him a purgative, and told him to look at his stools, and see whether the black matter had come away. The patient was so delighted with his black stools, that as soon as he saw them he ran to the medical man, and said, "Doctor, I have passed it—I have passed it—as black as my hat! and now I am cured!"

Sulphur changes the stools very remarkably—it darkens them.

Senna darkens the evacuations.

Spinach renders the evacuations green, and if you did not happen to know the influence of different kinds of food upon the stools, you might form an erroneous opinion from the examination of the stools after an individual has been eating spinach.

Some wines influence the colour of the stools. Claret gives a very peculiar laky tinge to the fæces. If you wish to know precisely the colour which it produces in the stools take a few glasses or a bottle. You will find claret a very nice wine.

4th. The consistence of the evacuations is of very great importance.

If the stools be thinner than natural it is a certain indication of some irritation of the mucous membrane of the intestinal canal.

When the evacuations are spontaneously loose the irritation is most frequently seated about the upper part of the colon.

When you give a mild purgative, and there is much liquid matter in the evacuations, and especially if they be oleaginous, it is a sure indication of some irritation of the mucous membrane of the small intestines.

When the evacuations are loose, slimy, and bloody, it is a certain indication of inflammation about that part of the large intestines which is called the sigmoid flexure of the colon.

You should examine when the stools are loose, to see if there be blood, or if there be pus with them; for in this way you may often detect hemorrhage or suppuration in the intestinal canal.

You should examine the stools for another reason. Sometimes you will find that when persons hurry their meals, the evacuations are composed of comminuted or pulverised food, which, passing from the stomach without having been there digested, has fermented and putrefied

in the intestines, or passed nearly in its original state. You may often thus find out the cause of the complaint of a patient; and, by a proper diet, by proper mastication, and by rest after meals, he may perfectly recover his health.

Again, you may by examining the evacuations detect the existence of gall-stones in them. Suppose a patient has a sudden attack of pain in the direction of one of the hepatic ducts—the pain suddenly ceases, and after that the stools suddenly become yellow. In such a case if you examine the stools day after day for a week, with a shank of a spoon, you will detect the gall-stone. Sometimes sand is passed by stool. I saw a patient who passed very large quantities of sand this way. Sometimes calculi are passed by stool; and this is especially the case from feeding upon oats. It has been observed that in Scotland, where a great quantity of oaten bread is eaten, calculi are very frequently passed, having a point of oat for a nucleus.

There may be worms in the intestines. There are four kinds of worms which infest the human body, namely, round-worms, ascarides, the trichuris, and the tape-worm.

5th. The smell of the evacuations is important also to attend to. There is a remarkable change in the smell in many cases of disorder and disease.

A natural evacuation is as bright and as yellow as a wall-flower, but of rather a different smell.

The alteration in the smell is very peculiar in some cases: for instance, you might tell immediately on entering the room that an individual was labouring under dysentery by the smell,—it is so remarkable.

You might smell that a patient was labouring under small-pox, in the dark.

And you might tell that another patient was labouring under typhus fever by the smell in the dark.

In some cases you might tell, in the dark, that a patient was dying by the very peculiar smell. There is then often an acid and lemon odour, as in typhus fever, or an intense earthy odour: this sometimes occurs for twenty-four hours before death; and as far as I have observed it is invariably a fatal symptom.

Therefore I repeat that it is of great consequence to attend to the smell of the evacuations and to the other odours.

When the Concoctive System is in a healthy condition there is—

3. Nothing unnatural in regard to the appetite.

1st. A failure in the appetite is generally an indication of something wrong in the stomach, or in some other part of the concoctive system.

There is a very common error prevalent with respect to failure of the appetite in children. A child, for example, cannot eat its usual breakfast, and then it is tempted with some confectionary.

Now, when a child's appetite for common food fails nothing is so well as to follow the indications of nature: if the stomach loathe food, then let it rest without food. It is a very bad plan to tempt the appetite with nice things under these circumstances, either in children or in adults.

2d. With respect to the appetite there are certain longings that are peculiar, as those of pregnancy; and that desire for cinders, sand, and other indigestible substances, which occurs in chlorosis. There are longings also in convalescents. One of the first indications of convalescence is the returning appetite for common diet.

It is the vulgar opinion that all these longings may be indulged; for the vulgar, and indeed most persons, reason from analogy, and hence they conclude that what may be proper in one case may be given to any other individual.

I have known a great many deaths occur from this error in indulging all the longings of convalescents.

3d. The appetite may be capricious; sometimes good, and at other times deficient. When it is thus capricious, or alternately good and bad, it is a distinct indication of something wrong either in the stomach or in the parts connected with it.

In organic diseases the appetite often is very capricious; so that, if you lay down strict rules as to diet, you will find the patient's appetite so capricious that he will seldom follow any one plan for more than twenty-four hours. This is especially the case in what is called scirrhus of the pylorus, in which the patient will be almost always changing his plan of diet. When you find this capricious appetite with a pale skin and an emaciated form, it is a strong presumption that there is some organic disease.

4th. Sometimes the appetite is voracious, as in diabetes, in which the patient will eat and drink four times as much as in health.

5th. Another circumstance which requires notice is thirst.

One of the first indications of fever is thirst.

When the tongue is perfectly dry in fever, and without thirst, you will generally find that it is attending some serious affection of the brain; and it is a very bad sign. When the tongue is moist with thirst it is also a very bad sign.

In diabetes there is excessive thirst.

If you have any doubt about the cause of thirst, you must investi-

gate the case perfectly and take into account the combination of the signs.

When the Concoctive System is in a healthy state there is—

4. Nothing unnatural in the appearance of the tongue.

There are many parts of pathology which admit of illustration by means of drawings and casts, which ought to be executed by first-rate artists, or they would be worth nothing. I have a series of casts and drawings for this purpose. The appearance of the tongue under various circumstances might be very well illustrated by good drawings.

In many examples of disorder the tongue is white : when it is white and rough, like velvet, it is very often an indication of some disease of the head. I know several sensitive individuals who, if any thing occurred to render them very anxious shortly before bed-time, would have this white and rough appearance of the tongue in the morning.

The same appearance of the tongue also attends irritation of the stomach.

A yellowish tongue is generally an indication of something wrong in the liver. It occurs in typhus fever, when the liver is much disordered.

The tongue being of a vividly red colour at the tip, and thence a little way round the edges, or having a fiery red streak down the centre, or having the whole surface preternaturally red, especially if the papillæ be raised, is one of the most distinct and certain signs of inflammation in the mucous membrane either of the stomach or of the small intestines.

There are occasionally little spots on the tongue, which are very important, or little aphthæ or small blisters. These are almost always an indication of some irritation in the small intestines and in the stomach, as in children. A knowledge of this circumstance will save a great deal of trouble in the use of local applications, for the proper treatment will consist in removing the cause of the aphthæ.

So likewise you see in the last stage of consumption the skin is faded, the internal mucous membrane becomes affected, and aphthæ take place.

If the tongue of an individual be paler than natural it is a certain indication of his being out of health. The paleness of the whole surface is visible in the tongue likewise, and the blood drawn from such individuals shows a deficiency of red particles.

If the tongue be purple it indicates distinctly that there is some very serious affection either of the lungs or of the heart.

The tongue may also be too moist, or it may be too dry.

The tongue may be too moist from the exhibition of mercury. It is

sometimes too moist from acidity of the stomach. Most persons have what is called water-brash when they are young, and then the tongue becomes moist.

A preternaturally moist tongue may attend a fatal case of abdominal inflammation. For example: you might see an individual after vomiting, in the winding-up of a fatal inflammation of the serous membrane of the belly, and then perhaps you might be deceived by the moist appearance of the tongue.

The tongue may be preternaturally dry.

Almost all cases where the tongue is so dry that it leaves no stain of moisture upon the finger are combined with an inflammation of the mucous membrane of the bronchia, which is generally associated also with an inflammation of the mucous membrane of the intestines. The tongue, in typhus fever, is at the onset red at the tip; but in the progress it becomes brown, and is dry and glazed.

When the Concoctive System is in a healthy condition there is—

5. No uneasy sensation in any of the abdominal regions.

The uneasy sensations may be very various, and the consideration of them may lead to very important inferences in many cases.

1st. There may be acid or acrid eructations; and they may occur only upon jolting motion: for instance, they may be evident only when riding in a carriage, or on horseback.

Sometimes this acid smell is in the breath.

In diabetes nothing is more common than an acid odour of the breath.

In cases of overloaded colon the individual frequently has a fæcal odour in the breath. In drunkards there is a peculiar odour in the breath: I do not know how to describe it in words, but it is an odour very familiar to me.

If an individual come to you who has this odour in his breath, who vomits in the morning, having a little fulness of countenance, with a bloated form, be quite sure he is a confirmed drunkard, though he will seldom allow that he drinks.

A person called on me one morning with these indications, and I am quite confident that he was a confirmed drunkard. I cross-questioned him on the subject, but he would not acknowledge that he was in the habit of drinking.

Many individuals will conceal from a medical man the circumstance of their drinking to excess, and these persons have a very curious way of clearing themselves of being drunkards. If one man gets drunk only six times a week, he compares himself with some other individual

who gets drunk seven times a week, and then thinks himself as sober as a judge.

In these cases you can generally get at the friends of the individual, and learn of them what his habits are; for if he be not a confirmed drunkard you may save him from destruction. For recollect if he be not a confirmed drunkard, he is reformable; but if he be a confirmed drunkard you generally cannot succeed in reforming him.

A young man was in the habit of drinking to excess, and all the attempts which his father had made to reform him had been in vain. One day the father found his son half fuddled, and said to him, "My dear fellow, I am sorry to see you addicted to such a habit as that of drunkenness. Depend upon it, that wine is the worst enemy a man has." The son, who was one of the greatest rascallions on the face of the earth, filled a bumper, and looking his father full in the face, answered—

"'Tis said that we should love our foes;
So,—— it, father, here it goes!"

And this is the way almost all confirmed drunkards will act. You can hardly ever make any impression upon them; at least, I have never succeeded in reforming a confirmed drunkard.

2d. The uneasy sensation may be heat in the stomach.

If the preternatural sense of heat be constant in the stomach it is a strong indication of some inflammation of the mucous membrane of the stomach.

3d. The uneasy sensation may be nausea, retching, or vomiting; and then the causes may be various. It may proceed from the head; it may arise from inflammation of the stomach, or from inflammation of the intestines; or it may arise from an affection of the liver.

There is one kind of nausea which is connected with drunkenness very often. A confirmed drunkard often has retching, vomiting, or nausea, in a morning; therefore I suspect, if I find a lady is sick in the morning, either that she is pregnant, or that she drinks, and I investigate the case accordingly. It is surprising how this is remedied in confirmed drunkards by a dram.

The same thing sometimes occurs in convalescents. I attended a gentleman who was not a drunkard, but who had been accustomed to take a little porter. When he was convalescent, he was troubled with a most oppressive sense of nausea, which he said he knew arose from starvation. I allowed him to take a little porter, and he was soon perfectly well.

4th. Hiccup sometimes arises from mere over distension of the stomach, though the same sensation may attend inflammation of the liver, and sometimes other very serious affections of the liver.

5th. Itching is another uneasy sensation.

Itching of the skin attends the absorption of bile. Itching at the nose or at the extremity of the rectum is often connected with irritation of the mucous membrane of the intestinal canal.

6th. Pricking is another uneasy sensation, and is an indication of the presence of worms; especially of the round worm, of the ascarides, and of the trichuris. Pricking of the stomach attends other affections, especially organic diseases of the head, and is very often combined with a sensation of pulsation in the epigastrium.

7th. Pulsation at the epigastrium occasionally attends some affections of the nervous system, of no consequence; and then the sensation of pulsation is limited, but without any evidence of tumour, and it is only occasional; it comes and goes.

Sometimes the pulsation is connected with an overloaded colon.

Sometimes it attends diseases of the spleen, and sometimes also diseases of the kidneys.

Pulsation may be in the abdominal aorta, some part of which may be connected with an aneurism.

8th. Pain is an uneasy sensation of great importance.

This pain may be constant, or it may be only occasional.

If pain be constant, it is an attendant upon inflammation, with only two exceptions, as far as I know. It is constant, more or less, in colica pictonum, but then it is increased by fits; and pain is sometimes also constant for many days in hysterical females, without any inflammation.

The seat of the pain is important, because a knowledge of the seat leads to the consideration of the structure and functions of the organ which is affected.

When the pain is occasional it may arise from various causes, as from occasional spasms.

9th. Tightness is another uneasy sensation of great importance.

A sensation of tightness accompanies disorder of the liver.

A sensation of tightness also sometimes exists with a state of chronic inflammation of the peritoneum.

10th. Tenderness is another uneasy sensation which requires to be noticed.

Tenderness most frequently is an attendant upon inflammation, but not always, for it accompanies some affections of the spinal cord. And

you must recollect, that very few individuals can bear heavy pressure over the epigastrium, even in health.

I have known a physician push his fingers roughly down into the region of the epigastrium, and suppose, because the individual flinched, that he had some disease either of the duodenum or of the liver.

This is not at all a fair way of forming an opinion, but quite the contrary. The pressure should be made gradually and progressively, and should only be forcible at last.

When the Concoctive System is in a healthy condition there is—

6. No unnatural fulness or flatness of the abdomen.

A generation of flatus in the intestines is a subject of great importance in many instances.

In young married women it sometimes happens—that they become excessively distended in the abdomen, with a combined affection of the stomach, liver, bowels, and skin. These persons, from the menstrual discharge having ceased, and anxious to be "as those who love their lords would wish to be," actually suppose that they are pregnant; and perhaps the medical man is engaged, having added his sanction to the opinion, and the baby's clothes are made. Things, however, go on thus beyond the usual time, and perhaps the medical man is called in, and finds that it all arises from the generation of air in the intestines. He prescribes a draught, and the little one having vanished like a vapour, and mingled with the viewless winds, leaves the disconsolate mother as flat as a pancake.

You can easily distinguish the distension which arises from wind from that which arises from pregnancy. In pregnancy the abdomen is more firm than the distension from the generation of air in the intestines, in which case the abdomen yields readily to pressure. When it arises from mere distension of the stomach and bowels, you will generally find that the individual has been in the habit of eating a vegetable diet largely, and of taking large quantities of slops.

In the progress of inflammation of the serous membrane of the abdomen, the belly becomes extremely round.

On the contrary, in the progress of inflammation of the mucous membrane of the abdomen the belly in general becomes more and more flat.

Sometimes the wind is in the cavity of the belly, but generally it is within the intestines.

When it is in the cavity of the body it invariably arises from ulceration having proceeded through the mucous membrane of the intestines,

and then through the serous membrane, so as to admit the air from the intestines into the cavity of the abdomen.

In dropsy it generally occurs that a large quantity of flatus is generated in the intestines ; and you must therefore be upon your guard, in performing the operation of tapping, not to wound the intestines.

Effusion of serum into the belly from inflammation is very distinguishable. There is then a sensation of fluctuation or undulation when you place your fingers on one side of the abdomen, and tap on the other side with your other hand.

An unnatural fulness of the abdomen may arise from tumours in the different regions.

The tumour may be internal ; it may be a tubercle on the peritoneal covering of the abdomen, felt like a pea under the abdominal coverings.

It may be an enlarged liver, or an enlarged kidney ; or it may be an aneurism of the abdominal aorta ; or it may be an enlarged ovary, or an enlarged uterus ; or it may be from enlarged mesenteric glands.

It mostly happens that affections of the internal and external glands and lacteals are secondary to some disorder of the skin and intestines

Having made these observations, I may just notice, by way of conclusion, that the influence of the Concoctive System is very great over all parts of the body.

There is a sort of associate sympathy between the stomach, the bowels, and the skin ; so that, if any one of these organs becomes affected, it is apt to excite inflammation in some other of the organs.

For example,—twenty individuals have either the stomach, or some other part of the Concoctive System disturbed, by which they will become liable to inflammation. And the inflammation set up in these individuals may be seated in twenty different parts.

In some, the sympathy takes place through the medium of the heart, sometimes from the quantity of blood generally, and sometimes from the kind of blood which is formed.

LECTURE IX.

METHOD OF INVESTIGATING DISORDER AND DISEASE.

VI. URINARY SYSTEM.—VII. SEXUAL SYSTEM.

In this lecture I shall consider the indications of a healthy and of a morbid condition of—

VI. THE URINARY SYSTEM,

and also of,

VII. THE SEXUAL SYSTEM.

These two systems together comprehend—

1. The Kidneys, Ureters, Bladder, and Urethra.
2. The Testes, Uterus, and appendages of both these parts.

I shall begin first with—

VI. THE URINARY SYSTEM.

When the Urinary System is in a perfectly healthy condition, there is—

1. No deficiency or excess of the quantity of urine secreted. But it sometimes happens, under a contrary condition of these parts, that there is a greater or less quantity of the urine than natural secreted.

In some cases there is an entire suppression of urine, and then death generally takes place very suddenly, and mostly from great oppression about the brain.

In most febrile affections there is a deficiency of urine, that is, in almost all those affections in which the pulse is quick, and the skin is hot and dry.

In many dropsical affections there is a deficient secretion of urine.

In some affections, on the contrary, there is an excess of urine.

This is the case in hysteria, and in almost all nervous affections. Hysteria is strictly a nervous affection: it has a most extensive range of character, and is mostly attended by a great excess in the secretion of urine. Another still more curious affection is what is called

diabetes; an affection in which you will often find that the individual passes a most enormous quantity of urine, as much as four, six, eight, ten, or even more, quarts, in twenty-four hours.

The quantity of urine, therefore, is of great consequence, because, by further inquiry, it may lead you to infer the conditions upon which the alteration in quantity depends.

When the Urinary System is in a perfectly healthy condition, there is—

2. No impediment to the discharge of the urine secreted.

But it sometimes happens that there is some obstruction to the discharge of the urine.

I once attended a patient who was suddenly seized with pain in the direction of each ureter; and no urine passed from either kidney into the bladder. The inference from these circumstances was, that a calculus was sticking in each ureter, which proved afterwards to have been the fact. This patient had before been subject to calculus affections. While he was in this state he was threatened by an attack of apoplexy, from which he was saved by the copious abstraction of blood: and, under the profound and universal relaxation produced by the bleeding, the calculi passed into the bladder, and were ultimately discharged by the urethra.

Sometimes the cause of the impediment is a stone in the bladder.

Sometimes the cause is stricture in the urethra.

Sometimes it arises from a spasmodic affection of the neck of the bladder, which may almost be considered as a sphincter.

Occasionally the impediment arises from some organic affection.

I have seen instances where tumours have existed in the pelvis, and have produced very considerable obstruction.

I saw an instance where a mass of hydatids was attached to the fundus uteri; and, in consequence of the pressure of this structure on each ureter, the ureters became enormously increased in size, till they were larger than the finger; and the structure of each kidney was beautifully developed.

Occasionally the cause of the impediment to the discharge of urine is a want of muscular power in the bladder to enable it to expel its contents. This sometimes occurs after delivery. A female has a hard labour, and the pressure of the child's head produces a temporary paralysis of the bladder; so that the urine requires to be drawn off daily.

There frequently is a retention of urine in fevers, where the brain alone, or the brain and spinal marrow are affected; therefore, when-

ever the brain and spinal cord are affected, be quite certain that the patient passes a sufficient quantity of water daily; for if the bladder be in some degree paralytic, retention of urine is the consequence. And this retention becomes of great importance, for it tends very much to aggravate the affection of the brain.

You must be very careful in these cases not to be mistaken with respect to the retention, on account of the dribbling. If you ask an old nurse if the patient passes his water freely, she will often answer in these cases, "Oh, quite freely, he is constantly making water." Whenever you hear a nurse make use of this expression always be upon your guard, always then examine the region of the pubes; and if you find the abdomen distended, and the patient's linen wet, be quite certain that the bladder is over-distended, and introduce a catheter. This dribbling from the bladder very often attends affections of the brain.

You see something of the same kind in drunkenness. When the brain becomes surcharged with blood, from the excessive abuse of diffusible stimuli, dribbling from the bladder is very apt to occur.

When the Urinary System is in a perfectly healthy condition there is—

3. Nothing unnatural in the appearance of the urine.

In many cases of acute disease there is something unnatural in the appearance of the urine. In some cases the urine is at the same time scanty and high-coloured; and when this occurs with a hot skin and a quick pulse, it is usually an indication of the presence of inflammation of some serous or fibrous structure. On the contrary, when the mucous membranes are inflamed, the urine generally is not scanty and high coloured, but is very frequently copious and colourless. Recollect, however, that there are some exceptions to this, and especially with respect to inflammation of the mucous membrane of the large intestines. Again, if you have a hot skin, with high-coloured and scanty urine, and a quick pulse, you will very often find that albumen exists in the urine; which may be detected either by boiling the urine or by adding nitric acid to it. The same occurs sometimes from chronic affections, as in dropsies, especially those which arise from inflammation. Dr. Blackall has pointed out this circumstance, and has drawn from it an inference by far too sweeping; for it by no means occurs universally in dropsy from inflammation that albumen exists in the urine.

In other cases bile may be found in the urine; and this is a very important circumstance. The urine then has the colour of saffron-

water, in those examples where the quantity of bile is but slight. If, however, there be a very large portion of bile in the urine, then it has very much the colour of porter. The fact of the existence of bile in the urine leads to the inference that there is some obstruction to the natural flow of the bile, which being absorbed into the blood, and mixed with it, thus passes off with the secretions of the blood.

Sometimes, by examining the urine, you can detect the tendency to the formation of stone early; and by proper means may correct that tendency. You may detect, for example, a whitish deposit of phosphate of lime, or a red deposit of lithic acid; and by filtering the urine you may sometimes discover calculi, which remain small, and may be like blocks of stone upon the paper after the fluid has been filtered off. Therefore, whenever a patient complains of pain in passing his water, without any obvious cause, always filter the urine, to find out if there be any of the small calculi deposited.

The appearance of the urine is sometimes likewise changed. And if it be copious, with a smell and taste like those of honey, it is a strong presumption of the existence of diabetes.

If it be from diabetes, the urine, when evaporated, will leave a residuum very much like treacle, both in appearance and in taste. And sometimes it happens that there is alternately a very large quantity of saccharine matter and of urea. Sometimes also there is a preponderance of acid; and in other instances a preponderance of alkali. But the test of diabetes is the daily evaporation of the urine.

Sometimes the patient finds out himself that he labours under diabetes, by the taste and smell of the urine. Finding that the urine smells like honey, he is led to taste it; and finding that it is sweet he becomes alarmed and sends for a medical man.

In all cases of affections of the urinary system, evaporate the urine and examine it for yourself, never trusting to the patient's representation. When there is a superfluity of acid, or alkali, it may lead to important inferences with regard to the diet and drinks.

There may be mucus in the urine, which is a certain indication of inflammation in the ureters, or in the bladder. If there be blood and mucus together in the urine it is an indication of inflammation of the mucous membrane of the bladder.

Sometimes fungous points are discharged by the urethra, indicating a fungoid disease in the bladder.

The discharge of pus in the urine will indicate suppuration either in the kidney or in the bladder.

Sometimes suppuration occurs in the kidney without any pain at all in strumous subjects; and the only indication of it is a large quantity of pus passing daily off by the urethra with the urine.

I have known one kidney entirely destroyed in this way, and yet the individual has lived for years afterwards, one kidney performing the functions of both.

When the Urinary System is in a perfectly healthy condition there is—

4. No uneasy sensation in the region either of the bladder or kidneys.

A smarting pain, attended by heat, is one of the most certain indications of inflammation of the mucous membrane of the bladder. When the kidneys are inflamed the pain is generally more obscure.

Strangury is another uneasy sensation about the neck of the bladder: and it may arise from the absorption of acrid substances, as cantharides or turpentine, producing a degree of inflammation; or it may arise from some irritation of the bowels, as from scybala in the colon; or it may be from inflammation attacking the mucous membrane of the bladder, or even of the peritoneal covering of the bladder.

There may be an uneasy sensation of fulness about the urinary organs. If it be about the bladder, it may arise from over distension of the viscus, requiring the use of the catheter.

If the sensation of fulness be about the kidneys, it sometimes is described as a strange uneasy feeling on each side, as if a large oyster were stuck in each kidney. This frequently attends organic affections of the kidneys.

When the Urinary System is in a perfectly healthy condition there is—

5. Nothing unnatural as to the time of retaining or passing the urine.

When the urine is retained a longer time than usual, or when it is passed at shorter intervals of time than natural, it is a strong presumptive proof that there is something wrong.

Frequently, when the urine is retained, there is an affection of the brain or of the spinal cord. An anxious mind will produce an irritable state of the whole nervous system, as where an individual passes night after night without sleep. This will affect the bladder, and it may pass on to organic affections. So also by hard work the same state may be produced; and if the occasion be not diminished, it may pass into a state of actual inflammation.

But one of the most frequent occasions of this state of inflammation is stone, or the introduction or absorption of acrid substances. Slight

irritation of the bladder is of importance, because a more or less acrid fluid is constantly passing into it. It is a point of great importance in these cases to manage the patient's mind—a point which requires great attention; for if the patient be constantly directing his attention to the irritation, the structure of the parts may be disorganized, from the influence of mental emotions upon the body. If, for example, a patient have an inflamed eye, and if he talk about it, and think about it, the quantity of tears and the redness of the eye are almost immediately increased; and so in irritation of the bladder, the patient is obliged to make water far more frequently if his mind be directed to his complaint, than if it be directed to other objects.

When the Urinary System is in a healthy condition there is—

6. No tumour in the region of the bladder or kidneys.

When you feel a distension in the region of the bladder, it is generally an indication that the patient has retention of urine. In some cases of fever, for example, the bladder rises up immensely; and then you generally find the patient lying on his back, moaning, and in great general distress. When this occurs always examine the abdomen above the pubes, to ascertain whether there is retention of urine; for after the urine has been for some time retained, its thinner parts become absorbed, and its more acrid parts being retained, by this, combined with the retention, inflammation of the mucous membrane of the bladder may be induced.

Sometimes the tumour may arise from organic disease. You frequently find this to be the case in organic affections of the kidneys.

Perhaps there is no subject so difficult to give an opinion upon as abdominal tumours. I have heard an opinion given correctly in some cases; but I have heard other opinions given which have not been verified. Sometimes a tumour apparently pulsates in the region of the kidney; and I have known the pulsation so strong that an aneurism was suspected, without however being found to exist upon dissection.

Having made these observations upon the Urinary System, I shall proceed to the consideration of the healthy and morbid condition of

VII. THE SEXUAL SYSTEM.

When the Sexual System is in a perfectly healthy condition there is—

1. No preternatural discharge of any description.

But there may be, and often is, some unhealthy discharge; for

example, in gonorrhœa, gleet, leucorrhœa, and certain organic diseases of the uterus, attended by discharges. And by minute examination you will be able to detect the difference in these discharges.

The discharge of gonorrhœa differs from that of gleet; and in leucorrhœa the discharge is different from that which occurs in organic diseases; and thus the subject is very important to attend to with regard to the inferences.

If the lochial discharge be very scanty the patient is very apt to be fevered, if she be over-fed.

When the lochial discharge is extremely offensive it often indicates a bad fever, and is rather an unfavourable circumstance.

Yet you must recollect that many females have a remarkably offensive lochial discharge in health. I do not know how it is, but the fact is well known to nurses, that in some females in health the lochial discharge is so offensive that it would be very unpleasant to enter the room unless some aromatic perfume were made use of. Some practitioners have attached great importance to the stoppage of the lochial discharge as a cause of fever; but though it sometimes may be a cause, it is most frequently the effect of fever.

Sometimes, under fever, this discharge is diminished or suppressed; and then, as a consequence of fever, it is of very little importance.

But a distinguished individual makes an inference from this circumstance, and founds his diagnosis on this, which he considers as a very important point; if the lochial discharge be absent he calls it the puerperal fever; but if the lochial discharge remain he says it is not puerperal fever. But all distinctions of this kind are very vague.

When the Sexual System is in a perfectly healthy condition there is—

2. No deficiency or excess in the natural discharges.

Sometimes it happens that the hymen is imperforate, and gives rise to a great deal of suffering, or even to fatal consequences.

When any female has not menstruated at the proper period, and when she complains of fulness in the lower part of the abdomen, and of pain in the back, a medical man should be on his guard, lest the accumulation of the menstrual fluid retained by an imperforate hymen should lead to a fatal result. He should therefore endeavour to ascertain the fact; for, I repeat, if the hymen be imperforate, and the menstrual discharge go on thus accumulating month after month, death may be the consequence of the irritation produced in this way.

I saw a young lady who was considerably fevered in this state; but by an operation a large quantity of menstrual fluid was discharged,

with complete relief to all the symptoms. The fluid discharged did not coagulate, which is the peculiar characteristic of the menstrual discharge, and distinguishes it from the blood. When there is retention or suppression of the menstrual discharge, it is almost invariably the effect of some other disease. Almost all these patients have some disturbance which stands in the relation of a cause to the retention or suppression.

Sometimes there are mechanical causes which retard the discharge. I saw a female who had suffered an attack of inflammation of the vagina, which had closed the vagina nearly completely, so as to leave only a very minute aperture, through which the menstrual discharge passed as it were *guttatim*, with very considerable pain. This circumstance led to a separation between this woman and her husband; though perhaps it might have been relieved by a bougie.

When there is menorrhagia, or an excessive discharge of the menstrual fluid, it is always a sign of some disorder in the patient's health.

Females who suffer great mental anxiety are very liable to menorrhagia. Some females have menorrhagia who drink slyly. I have met with several examples where the cause of it has been perfect intoxication, or something carried very nearly to it.

A very important point connected with menorrhagia is miscarriage. If a woman have miscarried once, and become pregnant a second time, as soon as she becomes pregnant she should have a separate bed; or otherwise the probability is that she will miscarry again: and if the habit of miscarrying be established twice or three times, it generally goes on; and thus the hopes of a family may be blasted.

There is, however, sometimes, great difficulty in accomplishing this desirable temporary separation.

There is one point connected with the natural discharges which is of great consequence—it is that of nocturnal emissions in young men. Some boys or young men have one or two nocturnal emissions for weeks and months; and the result is the most extreme emaciation, sometimes winding up in idiocy. Almost the sole cause of these emissions in boys is the solitary vice of onanism, which, in some of the large schools of this country, is carried to a most horrible excess. I have met with many individuals whose health has been ruined and whose minds have been weakened by the prevalence of that solitary vice in schools; and, whenever I am sent for to a boy or young man having nocturnal emissions, I manage, if possible, to be left alone with him; and, in putting the question, I have always been able to disco-

ver, by his countenance as well as by his admission, that this vice is practised, which, if not omitted, will probably ruin his health and mind. There are certainly some very gross moral errors committed in our large schools; and this is one which I believe is carried on to a far greater extent than the public are at all aware of.

When the Sexual System is in a perfectly healthy condition there is—

3. No uneasy sensation in the testes, uterus, or their appendages.

Pain in the testes arises from a great variety of causes, which I shall merely mention here, and put you upon your guard. Acute pain in the testes sometimes attends inflammation of the kidneys, with retraction of the testicles,—or one if one kidney be affected,—and very little pain in the back. Sometimes the pain in the kidney is acute, as when a stone forms there rapidly; but if the stone form slowly, it may increase, till the whole structure of the kidney is absorbed, with hardly any pain.

There is a preparation in Mr. Grainger's museum of an instance of this kind which occurred in a patient of mine.

Sometimes the cause of pain in the testes is stricture of the urethra.

Sometimes the cause of the pain is gonorrhœa. You know too, that pain is one of the symptoms which attends the formation of chancre.

Uneasy sensations very often attend affections of the uterus. A sensation of bearing down attends prolapsus uteri. Burning pain, with some tumour, attends inflammation of the uterus. When the uterus is enlarged, and painful on pressure, it is a certain indication of acute, sub-acute, or chronic inflammation of that viscus.

Pain in the ovaria is very important. I believe that insidious inflammation is often the origin of what is called ovarian dropsy; wheih might perhaps be corrected at first, but which, if it be allowed tog o on, is incurable, and admits only of a palliation.

The pain is very often external. Delicate female children are very liable to have ill-conditioned inflammation affecting the external parts. The same also occurs in women. And this may produce sloughing and a fatal result. In these cases the skin is invariably disordered; and you have proofs of disorder of the mucous membrane of the intestinal canal, and of the functions of the liver being impaired. And if you remove this general disturbance, you will be able to control the ill-conditioned inflammation of the external parts; whereas, if you were to treat the local affection only, you would generally fail to subdue it, and it might prove fatal in its consequences.

When the Sexual System is in a perfectly healthy condition there is—

4. No swelling about the testes, uterus, or their appendages.

Swelling about these parts may arise from various causes. Swelling of the testicle may arise from a sudden attack of acute or chronic inflammation of the gland.

The cause of the swelling may be a common hydrocele, or effusion from inflammation.

The cause of the tumour may be, and very often is, connected with hernia.

The tumour also may be connected with organic affections, and therefore you must be cautious in your investigations. The uterus may be enlarged, sometimes, from hydatids within it. I have known it enlarged from this cause. Sometimes it is enlarged from inflammation; as after delivery, when it does not contract so much as usual, but in the fever which occurs in the puerperal state often remains preternaturally enlarged and tender for some days.

When the Sexual System is in a perfectly healthy condition there is—

5. No deficiency or excess of venereal power.

With respect to this you must take into account the age, since the sexual power begins only at a certain age, and is diminished in advanced age; though it continues till a very advanced age in some persons.

Sometimes there is a deficiency of venereal power.

In almost all serious febrile affections the venereal power is lost.

An exception to the loss of venereal power in febrile affections occurs in hectic fever. The venereal power often exists, for example, through the whole progress of consumption.

I have known individuals who have been able to propagate till a very late period of hectic fever; and then the children have been almost always tubercular, and have seldom reached the age of fifteen, as far as I have observed.

I have now three or four examples in my eye of children who were born tuberculated in the last periods of hectic fever in the parent.

The venereal power returns very remarkably in convalescence.

Again, it sometimes happens that you will find there is a deficiency of venereal power; and the reality or the supposition of this frequently leads men to the most miserable state of melancholy.

The loss of venereal power may be either real or imaginary.

It very often happens that it is imaginary, and then it attends insanity sometimes. And therefore if you find an individual whose habits have been temperate complaining of loss of venereal power, it is a strong indication of something being wrong about the head.

In one case of this kind I distinctly made out this circumstance.

These cases may very often be remedied; and as they are sometimes connected with excessive sensibility, it becomes very important to relieve them if possible.

In these cases it is of great importance to manage the mind, and get the individual's perfect confidence, which you generally may obtain; for otherwise the next thing may be a bullet through his head. Tell the patient that all will come right in time. A patient went to John Hunter, and told him that he had lost all venereal power. Hunter told him to make no further attempt till he gave him leave; but before a week was over he called upon Hunter, and said that he had been obliged to break through his rule.

Sometimes the deficiency is not apparent but real; for example, from the progress of chancre. A chancre may go on to slough till the whole penis is destroyed, if the chancre be neglected; and this certainly is a most lamentable state.

When there is an unusual excess of venereal power it is important to investigate its cause.

I have known some instances in which an excessive venereal desire and power, in persons advanced in age, has indicated some chronic affection of the brain.

If it occur after forty years of age that an individual has excessive venereal power and desire, it is a strong indication of some affection of the head.

The same thing occurs in women in what is called furor uterinus, which sometimes is the first circumstance announcing an attack of insanity. A lady of some consequence being insane was placed in an asylum, and being considered perfectly recovered was restored to society. One day, on entering the drawing-room she conducted herself very indelicately, and this was the first announcement of another attack of insanity.

The same state may arise from certain solitary practices, and I know no individuals whose state is so deplorable as theirs who give themselves up as slaves to unbridled passions.

LECTURE X.

PREDISPOSITION.

In the preceding lectures I endeavoured to give you a general, and in some measure particular, account or description of the method of investigating the physiology and the pathology of the different structures of the body; and if you recollect the indications of a healthy condition of the various organs, and contrast them with the symptoms of a morbid state of the same organs, you will be enabled to investigate and to recognise affections at the bed-side of the sick with more success than you might perhaps imagine. The value of an arrangement of this kind arises from its giving a facility of acquirement of any species of information. With respect to the present course of lectures, I shall not follow the plan which I have hitherto adopted. If my lectures had not been in a most imperfect state, I should never after their publication have lectured again: the publication of them would have so much destroyed my interest in them that I could not, as a matter of feeling, have continued them.

I have hitherto divided all affections into two classes; the first comprehending acute and sub-acute, and the second chronic, affections. And as I consider that this arrangement is not only useful but simple, I shall continue to adopt it.

Acute and sub-acute affections arise from common or peculiar occasions operating on an individual who has some hereditary or acquired predisposition, and producing certain impressions or effects on the body, which may be designated by the generic term of common fever or specific fever, according to the nature of the remote occasion. But generic terms are of very little use unless we distinctly analyze them, and state precisely the particular, as well as the ultimate, facts which they involve.

All febrile affections may be comprehended under one of the three following heads: Congestive fever; Simple fever; and Inflammatory fever.

Before considering Common fever I shall adopt a plan almost entirely different to that which I have hitherto pursued. I shall give one lecture on Predisposition; in which I shall explain its various

modifications and its influence in the production of acute and sub-acute forms of disorder and disease. I shall then give one lecture upon Remote Occasions, exhibiting the origin of febrile affections from depressants, stimulants, irritants, and interruptants. I shall next speak of the nature and treatment of common congestive fever and common simple fever; and shall then, in noticing common inflammatory fever, trace its symptoms and morbid appearances through the the different structures of the body, so as to give you a distinct notion of the diagnosis of inflammation under its various forms. Lastly, I shall consider its treatment, and show how far it is applicable to the different varieties. In this way I shall lop off some repetitions, which will enable me to give a more complete course of lectures on chronic affections than I have ever hitherto done.

The subject of this lecture then will be—

PREDISPOSITION,

or the tendency to disorder or disease in different parts of the body. The same remote occasions operate differently upon different persons, according to their respective predispositions.

Predisposition is very various, and it is—

I. Hereditary.

This hereditary predisposition consists in a condition transmitted from the parent to the child.

1. If human comparative anatomy were cultivated, as Bacon suggested, we might find out why some affections prevail so much in one family, and others in another family. This has never yet been done; but it is a part of anatomy which is well worthy of notice. Ray, and, since his time, Cuvier, have observed that there is a greater similarity in the internal than in the external structure of the body. We have a remarkable example of this in the distribution of the veins. Take the external veins, as those in the hands of two individuals, and you will see a very remarkable difference in their distribution. But if you compare the distribution of the internal veins in different individuals you will find generally a remarkable correspondence between them. But even in the internal structures there are occasionally differences observed, which may account for some predispositions. The large sinuses of the brain, for instance, are remarkably regular in their distribution; but, as all anatomists know, there are occasional varieties in the smaller sinuses. If the internal parts of

the body be more uniform than the external parts, we might form an inference, *à priori*, in favour of particular varieties of structure running in particular families.

There is no doubt that hereditary affections prevail in different families for ages; and it is well known that family likenesses will continue for ages, as may be seen in the family pictures of many houses where they are preserved; and this likeness, though it may be lost in one generation, will often rise up again in another. And since this is the case with the external features, and since there is greater uniformity of the internal than of the external parts, we might presume, *à priori*, that the internal family likeness would be more regular than the external resemblance: but this is a point which requires, and which well deserves, further illustration. The members of some families are distinguished remarkably, generation after generation, by some peculiarity in the form,—in the gait,—in the voice,—in the temper,—in the torpor,—or in the sensibility.

2. There are also not only corporeal, but strong mental and moral resemblances in particular families. For instance: if a mother have once slipped, her daughter is very likely to slip too; and I should not like my son to marry the daughter of a woman who had erred, on this account. A want of chastity is often displayed in this way successively by the mother and daughter; and something of the same kind will often be found successively in the father and the son. In fact, there is many an individual who

"Knows the right, but still the wrong pursues."

These are a set of wrong-heads, on whom education has no influence as to their moral character. I do not mean to deny the influence, the immense influence, of education on the moral condition of individuals, but I have seen the greatest pains taken with certain persons and entirely thrown away. These individuals (to use a common expression) if they attempt to make a spoon will spoil a horn. I do not believe even St. Dunstan, who is said to have led the arch-fiend, could lead a wrong-head by the nose.

I have traced the disposition to get into debt and dissipation in different members of the same families very remarkably. I have found that the same disposition has gone on from father to son; especially in two instances, with which I was unfortunately concerned. This would lead us, morally speaking, to a very minute survey of the characters of individuals. It is absurd, at first sight, to mix boys of different dispositions together without any attention to this subject; for

the moral characters of children should be studied at a very early period, in order that what is wrong may be counteracted, and what is right encouraged. We should instil habits of practical virtue at a very early age, for on such habits depend, in a great measure, not only happiness of mind, but health of body.

With regard to particular tendencies, they are remarkably displayed in different organs. A tendency to inflammation in the brain seems remarkable in different families; the same is the case with affections of the chest, and the same with affections of the skin. In large families you will find that some of the members have been prone to affections of certain organs, from generation to generation; but there are, however, certain exceptions to this tendency in the same families.

The predisposition to disorder and disease is—

II. Ætal,

or connected with the age of individuals.

This is most remarkably displayed in infancy on account of the following five considerations:—

1. The delicacy of the skin and mucous membranes.

Blisters, burns, and other local irritants, operate far more powerfully on the skin of infants than on that of adults. In infants operations are more fatal than in adults, and hence many surgeons are averse to performing the operation for hare-lip at a very early period. Slight as is the local irritation produced by vaccination, yet in some cases it will occasion fever. The stomach of infants is more easily offended by certain diets and drinks than that of adults.

The next peculiarity in infants is—

2. The high degree of sensibility and contractility.

By the Sensibility I mean the power or capacity of sensation. By the Contractility I mean the power or capacity of contraction.

Stimulants and irritants make a more powerful impression on the nervous system of infants than on that of adults; and by consequence they act also more powerfully on the muscular system, especially on the heart, the force and frequency of the heart's action being thus increased. If a child sit up later than usual it becomes fretful. The influence of the summer upon the temper of a child, too, is very obvious; for on a hot day a child is very apt to be irritable and peevish.

Another peculiarity in infants is—

3. The large size of the head in proportion to that of the body.

The head is larger in proportion to the body in infancy than at

adult age, in consequence of which a larger quantity of blood circulates in a given time through the infant's than through the adult's brain. Perhaps this gives to infants a liability, sometimes, to inflammation of the brain.

You are aware how strongly the dura mater is attached to the skull in infancy, and how large a quantity of blood the pia mater contains. The brain exhibits altogether a more vascular appearance than in adult age. The brain in infants is also softer, and will bear pressure without injury better than in adults. In parturition the brain is often compressed so much that it would kill an adult, and yet the child is not at all injured. Injuries on the head are less severely felt in infants than in adults.

The next peculiarity is—

4. The irritation of dentition.

A slight degree of irritation, though not amounting to inflammation, may disturb the heart's action and the nervous system. Sometimes, on the other hand, the local irritation does amount to inflammation, and fever is in that way established.

Were it not that children can bear a more rapid circulation than adults they would be constantly ill; for in the first year of a child's life the pulse is seldom under 120 in a minute; in the second year scarcely ever less than 110; and in the third year seldom less than 100. I have twice attended a boy whose intellect is good, but his head large, and he is predisposed to inflammation of the brain; though he is now four years of age his pulse is never less than 120. An adult would not bear such a rapidity of circulation; in him it would almost invariably produce inflammation.

The next peculiarity in infants is that they have—

5. But little power in maintaining the external heat.

This is very important, because they are thus more liable than adults are to depression, which may produce simple or inflammatory fever indirectly. This circumstance, however, is not peculiar to infants, for it exists also in very old persons.

The principal things to be attended to in the management of children are—

1. The diet.

The diet in infancy should consist of the mother's milk, and at the time of weaning of light and nutritious food.

2. The bowels should be kept open.

If this be attended to, and there be a copious flow of saliva in dentition, the child will go through it well; but if the secretion of saliva be

sparing and the bowels confined, the child will not sustain the irritation well. If you find a child has fever, with the gums red, swollen, tense, broad, and hot, a constant inclination to keep the finger in the mouth, and a cessation of the flow of saliva, you should scarify the gums very freely in several places, making the incisions crucial and deep, so that the edge of the lancet divides the membrane and grates upon the tooth; and you may also use a warm bath.

3. Cleanliness.

This should be attended to; and after washing, the skin should be very carefully dried, or it will crack. The clothes should be clean; and in kind, which is a material object, they should be light and warm.

4. Exercise.

When an infant is taken into the open air in the nurse's arms it should be very warmly clothed; but this is not so necessary for children who are older and can run about to keep themselves warm.

5. Sleep.

If those who are predisposed to complaints be allowed to sit up late, they are almost sure to have disease. Those children whose sleep is disturbed are predisposed to inflammation of the brain. Therefore when you see this occurring watch it carefully. I have known several instances in which the sleep was disturbed for many nights before the attack has come on.

6. The state of the mind.

Children should not be put to school too early. Many are destroyed by being sent to what are called preparatory schools, where a great many children are shut up in the same room all day, deprived of that exercise which is necessary to the preservation of health, and where their diet is not attended to.

If we paid as much attention to our children as we do to our horses we should have them more healthy than they are. Man has not been sufficiently considered as an animal.

Infancy may be said to terminate when language begins. When a child can communicate its own feelings, then it may—medically at least—be said to cease to be an infant. A medical man called to an infant finds himself in the situation of a veterinary surgeon called to a horse, and he must then consider the healthy functions and contrast them with the existing symptoms.

The same peculiarities, except dentition, pervade all the periods of childhood to the age of puberty, and from that period to maturity they lessen. One remarkable circumstance occurring from infancy to maturity is that a larger quantity of food is required than at any other pe-

riod. From infancy to manhood and middle age acute and sub-acute inflammations are far more common than they are in advanced life, and the serous and fibrous membranes are most predisposed to inflammation. If you keep an account you will find that by far the greater number of cases of inflammation with fever occur from the period of infancy to that of middle age.

The strength being once confirmed remains most vigorous from the twenty-first to the fortieth year, and the body has then a greater power of accommodating itself to surrounding circumstances. Large losses of blood are better sustained than at any other period of life: the most common affections are those which are highly inflammatory.

From puberty to manhood there is a predisposition to tubercular diseases stronger than at any other periods. The tubercular disease may occur in the peritoneum or lungs, and is a variety of what has been called Scrofula.

From the fortieth to the sixtieth year there is a tendency to repletion of the vessels,—a general tendency to overplus of blood, especially in those whose habits become sedentary while the appetite continues large and the bowels slow. Up to forty there is generally a considerable degree of activity, but after that time most persons become sedentary: we find the vessels replete to an extraordinary extent, and the system gets out of order,—there is a tendency to an earthy deposit between the coats of the arteries particularly; hence the liability to effusion of blood. You will find that chronic inflammation is far most common in persons of advanced age. About the age of sixty a remarkable change takes place—there is gradually an excess of blood on the venous side of the circulation, the external veins become swollen, and the pulse is slower.

After that comes old age. In persons subject to indigestion, from sixty and upwards is old age, when all the weak parts are apt to be displayed on receiving slight shocks, copious losses of blood are recovered from slowly, and sometimes not at all if they be very often repeated, though moderate losses are often very well sustained. In old age there is little power of retaining caloric, and a diminution of the sensibility and irritability of the body, torpor of mind and body, most remarkable in those who eat and drink very largely; the skin is drier and colder than natural. The skin is related as to its functions to the internal mucous membranes. Hence old men are liable to diseases of the mucous membrane of the air-passages, and of the bladder and urethra; they are also particularly liable to diseases of the prostate gland: these complaints are most common in those persons who have been addicted

to spirituous potations. The bowels are generally torpid, the secretions from the intestinal canal are more sticky, the liver is more torpid than natural, the veins become more and more distended, the arteries more and more rigid, and the heart's action becomes slower. There is still a tendency to osseous deposit, and life becomes a mere animal existence: the mind is torpid, and the intellect becomes annihilated. The intellectual powers might, I am persuaded, be preserved and even cultivated to a much later period of life, if man would be attentive to the regulation of the animal appetites. Cicero says that education commences in the cradle and terminates only in the grave: and I am convinced that the mind of man might, like the sun, grow larger at its setting, and shed a beautiful light at the period of its decline. I know a remarkable instance of this in a man, the whole labour of whose life was to do good to his fellow-creatures,—the celebrated Jeremy Bentham. Lewis Cornaro was another example of the efficacy of controlling the animal appetites in prolonging life and the mental powers.

The skin of old persons should be kept warm; the bowels moderately open; the liver should be occasionally roused by an alterative, and very gentle exercise should be taken. The exercise should be moderate, because the body of an old man resembles an old ship, which, if exposed to a storm, will almost inevitably founder, but which if kept in smooth water will last a very long time.

There are certain peculiarities which constitute predisposition, and which I call

III. Sexual,

as they relate to sex.

1. These are most remarkable in the females, who have, as compared with man—

1st. A much greater delicacy of the Skin and Mucous Membranes. These in the female approach to the delicacy of structure which exists in infancy.

2d. A higher degree of Sensibility and Contractility.

Burns, speaking of Nature, says—

> "Her 'prentice hand she tried on man,
> And then she made the lasses."

and she certainly has manufactured them of finer materials than man.

The next Sexual peculiarity is—

3d. The Menstrual Discharge.

This takes place at the age of puberty. At this period the girl has

a modesty which she did not previously possess, and undergoes a remarkable change both in form and mind. When this does not take place, or when it has taken place and afterwards becomes irregular, the consequence will be a loss of health; but this is more likely to be the case in suppression. Yet this may depend on other disorders, till it becomes itself a cause of disorder or disease; hence it is generally united with affections of the head, bowels, liver, &c. If the menstrual discharge be excessive, or if it be deficient, it alike predisposes the individual to disorder or disease. At this period of life hysterical affections often occur. About the age of puberty the stomach, liver, bowels, and head, are apt to be affected in males as well as in females.

At a certain period of life there is a cessation of the menstrual discharge; there is then peculiar liability to fulness about the blood-vessels, to apoplexy, and many other diseases, which may often be prevented by a spare diet, and attention to the state of the bowels. At this period, also, women are subject to scirrhous affections of the breast and womb. A little kot, which for years has remained stationary in size, will now increase rapidly, and become very troublesome and dangerous. After this period, if there be no disease, the life of a woman is considered by the insurance offices more valuable than that of a man, because the morality of a woman is greater, and her habits and passions are more subdued, than those of a man.

Another Sexual peculiarity is—

4th. Pregnancy.

In utero-gestation there are two systems to be maintained—that of the mother, and that of the fœtus; and hence, in this state, there is a tendency to repletion. In the last month of pregnancy it frequently happens that the woman becomes febrile.

Another is—

5th. Delivery.

Delivery powerfully predisposes to disorder, especially to inflammation, and that in two ways:—

First. When delivery has taken place the contractility and expansibility are increased to the highest point; and—

Second. We find a peculiar state of the abdomen—the uterus and abdominal viscera prone to inflammation, from the effects of distension of the parietes of the abdomen, followed by sudden relaxation.

There are then in the female these five peculiarities, which are worthy of attention. On the whole females are far more liable than men to be affected by depression, and by peculiar occasions. Therefore, typhus

fever, scarlet fever, &c., attack them more frequently than men, if my observations be correct.

2. Peculiar organs in the male influence other organs.

For example, the larynx. At the period of puberty the voice undergoes a remarkable change; and I have known affections of the larynx occur about this time.

Predisposition may be, and often is—

IV. Acquired,

and that from a great variety of circumstances, of which I shall mention some of the most obvious. It may be acquired—

1. From General Debility.

You have a striking example of this in a weak convalescent, with a low temperature on the surface, a feeble pulse, and a prostrate state of the muscular strength—in whom all the functions of life, though perfectly performed, are carried on languidly, and may easily be interrupted, especially by Depressants, such as cold, which may produce congestion; or inflammation, if the depression be followed by excitement. The weakness of the convalescent may be the consequence not merely of the disease, but also of the remedies employed for its alleviation or removal. Patients are then more liable to be acted on by a humid atmosphere; their stomachs are more liable to be offended with some kinds of food than in health. Whenever the general strength is broken up the mischief is apt to fall on the mucous membranes. In the same way, an individual in a state of temporary debility is powerfully predisposed to the influence of depressants,—to be chilled by cold, for instance.

2. From an increased degree of Sensibility and Contractility.

This may arise from a high temperature, from excess or deficiency of blood, from a want of sleep, from a disordered stomach, or from mental anxiety. Take, for example, what occurs in a hot summer. Females who are perfectly good-natured in cold weather then become more irritable; they scold at the servants, tease the husband, and whip the children; and fruits, or indigestible food, will then irritate the mucous membranes of the stomach and intestines far more than at any other time. Indeed, this is so much the case, that some individuals, on the approach of a hot summer, get their cretaceous powders in readiness with as much certainty as a sportsman does his dog and gun, powder and shot, before the shooting season commences.

Acquired Predisposition may arise—

3. From General or Local Plethora, or excess of blood in the Sanguiferous System.

This has also been called the Inflammatory Diathesis.

1st. Celsus says an individual should always be alarmed when his friends begin to congratulate him on his good looks; for that plumpness of form, and ruddiness of the cheeks, very often accompany a state of Universal Plethora, a state which borders on disease. At the same time, you are not to fancy that a person is out of health merely because he looks well.

Many individuals, after forty years of age, become sedentary; and the consequence is, that universal plethora succeeds, and they suddenly drop down and die. In consequence of an over-indulgence in the gratification of animal appetites, particularly eating and drinking more than is necessary, arises repletion. We have within us a manufactory of blood, which is obtained from the nutritious substances which we eat and drink. All persons who load their stomach with food feel a wish for diffusible stimuli, by which the heart's action is increased; till, in some unexpected moment, some part of the body is suddenly deluged with blood.

If any individual become suddenly plump, you should be very cautious about him, especially if he complain of his head. This universal overplus of blood occurs sometimes in individuals of a firm muscular fibre; and these individuals generally bear bleeding very well.

Sometimes the plethora occurs in individuals of a lax fibre; and they, on the contrary, bear blood-letting very ill.

This universal plethora occurs most commonly after forty years of age; but you will sometimes see it in young children, who have hot hands, with a full pulse, and are liable to convulsions if they eat too much.

2d. The plethora may not be universal, but a Local Plethora may exist.

You have an example of universal plethora in the servants of London, who are well fed and lodged; and the blood drawn from them is what old nurses call "rich blood," displaying a superabundance of the red particles. Local plethora may be seen in the pale spare poor of London; and the blood drawn from these persons shows a deficiency of the red particles. Almost all these persons have a pale skin, while those persons who labour under universal plethora have a remarkably fresh skin. In these pale spare persons, then, there often is a local plethora, an *error loci*,—an overplus of blood in the mucous membranes of the air-passages, of the urinary organs, or of the intestinal canal.

The acquired Predisposition may be—

4. Some external or internal local and latent fault.

Divines tell us that no individual is morally sound. It is not my business to give you the arguments which have been advanced for and against such an opinion; but I can safely say, that I have never found any individual in civilized life who was physically sound—free from some local tendency or other to disorder or disease. It may be induced by the conditions which I have already mentioned, or by the disorders which beset us through life, from infancy to manhood and old age,—as catarrh, small-pox, measles, scarlet fever, hooping cough, &c. The defect or fault is hidden while everything goes on right, and is only displayed when the system is disturbed by some great shock.

It is impossible to say in what this local and latent fault may consist. The probability is, that it is connected with some local change in the capillary vessels or nerves of the part, or in both. It operates physically in the same way as Pope says imagination does morally:—

> "Imagination plies her potent art,
> And pours it all upon the peccant part."

Or, if you please, you may compare it to a rat—not a political rat—but a live rat, with four legs and a long tail; as our American brethren would say, a genuine rat. When a rat wishes to escape from a ship it finds out the weakest part, and there makes its attempts to get out.

The acquired Predisposition may be connected with—

5. Certain Occupations.

These may be mental or material. Thus, thought with anxiety affects the head; deficiency of exercise leads to torpor; excess of exercise affects the heart and lungs. Certain positions affect certain parts. Among other examples might be given that of the grinders at Sheffield, who are peculiarly subject to affections of the chest from stooping; and that these affections do not arise solely from the dust inhaled into the lungs is proved by the circumstance that those who stand upright in the same work escape diseases of the lungs. Intellectual men are particularly subject to affections of the head. I have frequently observed that lawyers break up from affections of the head, so that their life becomes mere animal existence. The same effect is produced in persons whose feelings are strongly excited, as politicians; and in those who indulge to excess in the pleasures of the table. The ancient philosophers were temperate in habit, and lived to a great age; and we ought, also, to steer a middle philosophic course.

Acquired Predispositions are connected with—

6. Certain states of the Air.

Thus, the fumes of lead and mercury may be injurious, and common dust in the same way. Thus also certain odours may contaminate the air, and weaken the body, as in small dirty apartments.

Thus health, though it appears perfect, conceals many physical frailties, various in kind and in degree. Many a ship is unable to bear up against the fury of a storm: in smooth water she will sail voyage after voyage; but if she be exposed to the unequal pressure of a storm, to the perils of the winds and waves, she either founders at sea, or goes to pieces on the strand. And so it is with the human vessel as, gently borne or strongly buffeted, she passes down the stream of time.

Having made these general remarks upon the Predisposition to acute and sub-acute affections, I shall only have occasion briefly to advert to them in considering the origin of those affections.

When I come to treat of chronic complaints I shall again refer to the connexion of Predisposition with the chronic forms of disorder and disease.

LECTURE XI.

COMMON REMOTE OCCASIONS.

I HAVE explained in the last lecture the manner in which there arises or exists in particular individuals a tendency to disorder or disease; so that when a shock is sustained the weak part suffers. In this lecture I shall explain those circumstances which I designate—

COMMON REMOTE OCCASIONS.

These are what the old writers called the Exciting Causes: they are the agents which produce Disorder or Disease, from the impression which they produce on the system. You will remember that I divided the remote occasions into Common and Peculiar;—the former producing effects which, when they assume the acute or sub-acute character, we generalize under the term Common Fever; the latter producing, with analogous common effects, certain specific effects which do not arise from the operation of the common occasions. In this lecture I shall illustrate the operation of the Common remote occasions in the production of the acute and sub-acute affections, and shall, in subsequent lectures, show their particular connexion with the various common febrile complaints.

All the ordinary agents of nature may be arranged under four heads:—Depressants; Stimulants; Irritants; and Interruptants.

I. DEPRESSANTS

are those agents which, being applied to the human body, diminish the animal heat on the surface of the body, diminish the muscular power, diminish the heart's action, and produce that condition which I call Depression.

They are very various, but they admit of certain subdivisions: there are six leading Common Depressants. I might indeed enumerate others, but these are the principal:—Cold; Bodily Shocks; Offending Ingesta; Fear; Exertion carried to Exhaustion; and Copious Evacuations.

Of these the most important is what is called—

1. A Low Temperature, or Cold.

This has great influence on the human body, and may be applied by two means; either through the medium of air or of water. We live in an ocean of air in the same way as fish live in an ocean of water; except that fish float in different parts of their ocean, while man walks on the ground at the bottom of his. The ocean of air differs from that of water in being subject from the effects of the rays of the sun to far greater changes of temperature, which produces considerable influence upon the human body. This influence is relative; for in some hot countries where the thermometer ranges only ten or twelve degrees in the twenty-four hours, and is perhaps never below 70° Fahr., yet the inhabitants from this range of temperature are subject to what in this country is popularly termed cold. The same effect is often produced in this country upon persons who after a sultry day are exposed to a cold evening air.

If a low or variable temperature occurs it very frequently leads to the production of that state which I call common congestive fever. If water be applied in the same way it leads to a similar condition, especially if the whole surface be exposed to it, and if the body be weakened. It is in this way that Alexander, "Macedonia's madman," seems to have nearly lost his life by plunging into a river after a hard day's march. Congestive fever occasionally arises in this way from bathing. Many individuals think they should not go warm into the water, but imagine they should walk about on the beach till they are cool or even feel a little chilly. This, however, is a very mistaken opinion: when a person bathes he should go into the water with a surface perfectly warm; for upon plunging into the water he suddenly parts with a large quantity of caloric, and if the skin be previously cool the shock is very great; and unless it be followed by what is, perhaps improperly, called reaction, it often ends in an attack of congestive fever.

A glass of cold water taken during a state of exhaustion will produce immediate death in some persons; or if it be not immediately fatal an attack of congestive fever will probably occur.

2. Corporeal Shocks.

The shock of an accident, as of a fall from a horse, without any real injury; or the shock of a surgical operation, may in this way produce congestive fever; indeed, many individuals die in this way after accidents and surgical operations.

John Hunter was one day met by a surgeon, who told him that a patient of his (after an operation) was going on remarkably well, for that he had no fever; meaning that he had not a hot skin nor a quick pulse.

"Then," replied Hunter, "if he have no fever he will die." And he did die. Whenever the surface is cold after an operation, and there is not a healthy degree of what is (I believe improperly) called reaction, the case is always very serious.

3. Certain Diets and Drinks.

Some ingesta which disagree very much with the stomach are apt to produce an attack of congestive fever, especially if the quantity be large or if the kind be indigestible. Under this head will come dumplings, shell-fish, pickled pork, and food which distends the stomach by generating much flatus. Those persons, of whom we read as having dropped down after eating, have died from the action of the heart suddenly ceasing, from sympathy with the oppressed stomach. But these offending ingesta seldom produce congestive fever unless the body be previously exhausted or the mind be very anxious.

I saw an old woman in the Fever Hospital who crammed herself with pork, of which she was very fond; it produced a cold stage, which was succeeded by excitement, and the pleura and lungs became inflamed.

4. Certain Mental Emotions, such as Fear or Horror.

These are Depressants, and frequently produce congestive fever. I have known a child thrown into an attack of this kind which speedily terminated fatally, by seeing the head of a chicken which had been severed from its body by a knife. The impression which the sight made upon its nervous system was so strong as to produce the attack. You may frequently read in the newspapers of persons dying of fright, and they die of what I call congestive fever.

The collapse which succeeds high mental excitement is frequently followed by the same state.

The sudden communication of any bad news will have a similar effect. The late Mr. Pott was called in consultation on a surgical case: it was suspected that the patient had stone in the bladder. Mr. Pott examined him, found a stone, and abruptly said, "I congratulate you on having your complaint perfectly known, for you may be cured by an operation." He observed a remarkable change in the patient's countenance, and having left him, went home. His assistant called in the evening and found the man dead.

A medical man, then, should be cautious, not only in his communication, but also in his looks.

I saw in one day two cases of inflammation of the lungs produced by a thunder-storm.

5. Exercise, or Exertion carried to Exhaustion.

The influence of this occasion is often remarkably displayed in forced

marches. A soldier after a long day's march has suddenly dropped down and died. In India this is frequent, and it is attributed to a *coup de soleil;* but this is an indefinite term, for the disease is sometimes congestive fever; and sometimes inflammatory fever, when the patient does not immediately die. A man walks under a hot sun, and at first is powerfully excited, but then comes the collapse, under which he sinks and dies. If an individual by protracted disease be much exhausted this state may be produced. Thus a weak patient labouring under typhus fever rises to the erect posture, becomes exhausted, and dies with great rapidity if not rightly managed.

6. Copious Evacuations.

Hemorrhage from the uterus, copious blood-letting, profuse evacuations from the bowels, and copious discharges of other kinds, are depressing agents.

Depression is the condition directly produced by these agents; but, when excitement follows that state, inflammation often arises, and thus they give rise indirectly to either simple or inflammatory fever. The class of remote occasions which we shall next consider produce stimulation in the first instance, and do not therefore occasion the congestive, but only the simple and inflammatory forms of fever.

II. Stimulants

are agents which being universally applied increase the animal heat.

The most remarkable of them is—

1. A High Temperature.

One of the most frequent occasions of fever in the "new comers" in the West Indies is the heat of the climate. Some observations on this subject will be found in Dickenson's work on the Inflammatory Endemic of the West Indies.

The same thing very often produces fever in the East Indies. There is an affection which the natives call "Droop Puckrah," or "the sun has got hold of you," produced by the high temperature, and occurring with pain in the head followed by fever.

But we need not go to the East or West Indies for an instance. A person takes a long walk in London on a sultry day, and increases the heart's action by heat and exercise; and he may have an attack of fever. I saw a young lady who was exposed to an ardent sun on a heath for some time. She became fevered, and had an attack of inflammation of the brain.

2. Exercise, such as walking or running on a hot day.

This often operates as a stimulant. The elder Grimaldi, the celebrated clown, once told me that he had frequently attacks of fever from violent exercise, especially when he performed at two theatres on the same evening; and that these attacks sometimes lasted for several days.

3. High Mental Emotions.

These have a stimulating effect. The preparations among boys for set days, with the spirit with which they emulate each other, frequently produce fever. I have known fever arise thus from individuals taking great interest in the proceedings of public assemblies. I have known it arise, too, from anger, a high fit of which passion will sometimes produce permanent fever. In short, anything which interests the mind so deeply as to excite the heart's action may be considered as a stimulant. I frequently have a stage of fever from the state of my mind. If anything chance to excite me at about seven o'clock in the evening, my pulse becomes quick, my skin becomes hot, my face becomes flushed, and then I find I could speak, or write, or do anything of which I am capable, better than at any other period. This state of excitement goes on till three or four o'clock in the morning, during which time I can get no sleep; and when it goes off, it leaves me in a state of great exhaustion. A friend of mine knows a gentleman who is far advanced in life, who has a sort of intermittent fever of this kind. On one day he is in a state of excitement, on the next in a state of collapse. He is an excellent old man, a good companion, and fond of good company; and he never invites his friends on the day of collapse, for he knows that then he shall be quite dull; but he invites them on the day of excitement, when he is as merry as possible.

III. Irritants

are those agents which, being locally applied, increase the sensibility and redness of the part to which they are applied. They act most powerfully on those who are at the same time weak and irritable—as weak convalescents, or strong persons when exhausted with fatigue. There are two classes who are particularly liable to the common Simple form of fever from Irritants:—

1. Children labouring under what has been termed Marasmus: and—

2. Adults, who have what is usually called Dyspepsia: which two terms, as I shall hereafter show, are synonymous.

The common fever of Marasmus and Dyspepsia is connected with a torpid state of the large intestines, or of the liver, or the small intes-

tines, or the stomach. This state, which predisposes to the febrile state, is marked by pain in the stomach, irregular state of the bowels, furred tongue, and depressed spirits. In this case irritants will do much mischief.

There are many agents which may be classed under the head of irritants; some of which operate by being taken internally, while others operate on being applied to the surface of the body.

The following may be mentioned as the principal:—

1. Distilled Spirits, Wines, and Strong Malt Liquors.

These, when applied internally to the mucous membrane of the stomach, produce an increase of its sensibility and redness. And when wine was drunk at dinner so brutally as it formerly was when toasts were prevalent, attacks of fever were much more common from this cause than now that we have become more cautious. In all the best society malt liquor is excluded from the table; at set dinners to introduce it would be thought quite vulgar. Upon the whole, this change has certainly been very beneficial; for nothing was so disgraceful as the way in which these things were managed when toasts were common at dinner parties.

2. Indigestible Food.

If the body be weak, indigestible food will produce a state of fever directly, by irritating the stomach. Thus tongue, ham, bacon, &c., will lead directly to inflammation, especially in the summer, if the body be weak.

3. Certain Fruits.

Some fruits act very powerfully. The skins, the seeds, the husks, and the fibres, are all irritants: and again and again you may trace the rise of inflammation along the alimentary canal to the irritation of fruits, especially among children.

4. Sour Drinks produce irritation; for instance, sour wines, or cider, or what is called hard porter.

5. A Low or a High Temperature, locally applied.

1st. A Low Temperature operates in three different ways:—

a. A low temperature universally applied acts as a *depressant.*

b. A low temperature applied to a small part of the body seems to be an *irritant;* for example—an individual in turning a corner of a street on a cold day, feels a stream of cold air, which instantly affects the mucous membrane of the nostrils by inflammation, as is evidenced by its redness and an increased running from the nose. This is especially the case with cold air in motion.

Captain Parry mentions in his Journal that his men felt comparative-

ly comfortable in a temperature far below the freezing point, when the air was perfectly still; but when it was agitated the impulse was extremely painful. Now how did this arise? The men were each surrounded by an atmosphere of warm air next his body; but when the air was set in motion, this atmosphere was removed, and supplied by another of a much lower temperature. Therefore it seems that—

c. A low temperature acts as a *stimulant* when universally applied.

Our mode of addressing each other shows the great importance we attach to the temperature. When two persons meet it almost invariably happens that one of the first observations is, "A cold day," "a hot day;" "a fine day;" "a dull day;" and so on. In London it frequently happens that the air is raw, thick, and cold, and every one feels its depressing influence. When the atmosphere is cold, damp, and raw, the mucous membranes—when it is cold and dry, the serous and fibrous membranes—are most predisposed to inflammation. Some individuals —as rheumatic patients—can tell the slightest change in the density or dryness of the atmosphere, from its creating, removing, increasing, or diminishing, the local inflammation.

A low temperature frequently produces its irritating or depressing effects through the medium of water; which, if locally applied, will often irritate; but a cold bath will frequently act as a depressant.

The same thing occurs in the application of a High Temperature.

a. If locally applied it would act as an *irritant;* but—

b. If universally applied it would act as a *stimulant.* Sometimes a stream of hot air will produce inflammation locally. Inflammation will also be produced often by the application of hot water to the skin externally, or to the fauces. In this way children have often been killed by drinking from the spout of a kettle of boiling water. It is very wrong to leave such things in the way of young children; for, impelled by instinct, they are constantly doing, without reflection, things which it is very natural that they should do, but which appear very absurd to an adult.

6. Light.

Light irritates excessively in certain states of the eye and of the brain.

7. Sound.

In certain conditions of the brain noise is an irritant, which again and again produces and keeps up inflammation of the brain.

8. External Applications.

These frequently produce inflammation, by acting as irritants. Blisters, Ammonia, Antimony, &c., operate in this way.

9. Operations and Accidents.

These are irritants, and frequently produce inflammation. It is therefore of the highest importance for a surgeon to be a good physician. A knowledge of the principles of physic is so important, so indispensably necessary, to a surgeon, that I would hold no man properly competent to be an operating surgeon unless he were a good physician; for he not only ought to know the external pathology of the body, but should be acquainted with the healthy and morbid conditions of the internal organs.

I saw, some time ago, a surgeon remove a tumor from an external part of the body of an individual who was powerfully predisposed to bronchial inflammation. The surgeon was not aware of this, and the patient had an attack of bronchitis, and died of it.

I saw another surgeon remove a tumor from an external part of the body of a person in whom the mucous membrane of the intestines was powerfully predisposed to inflammation; and this patient died of the inflammation which was produced in consequence of the irritation of the operation.

I have before mentioned the importance of attending to the prevention of inflammation in internal organs after an operation. A great many individuals die after accidents and operations, and you will very often find they die of some internal inflammation. This is a subject which I have not been able to trace in systematic works, but it is one to which I strongly recommend you to attend. A surgeon should be a good physician, and that for three reasons:—

1st. As I have already stated, he should know the condition of the internal organs.

2d. A surgeon unacquainted with physic does not know how far certain conditions ought to influence him against performing an operation.

3d. No surgeon, unless he be a good physician, can understand the after-treatment when inflammation of an internal organ does occur. It is often a very nice thing to distinguish the existence of inflammation of the air passages, or of the alimentary canal, after an operation. Now, if a surgeon be ignorant of the symptoms, how can he properly treat the case?

I have often had occasion to regret that I neglected the department of surgery—that I did not take a more enlarged view of my profession—that I was so foolish as to split it into parts.

Whenever a patient dies after a surgical operation, provided a state of excitement is produced, he invariably dies of inflammation of some internal part or other of the body; and this internal inflammation you

will find upon dissection of the body. Sometimes a blow upon the chest will produce acute or sub-acute, but more frequently chronic, inflammation of the pleura. The fracture of a rib is very often the remote occasion of pleuritis and pneumonia; and when the pleura pulmonalis is ruptured the inflammation is complicated with emphysema. Sometimes the case is still more complicated; an effusion of blood takes place, and if the lungs be not attacked with inflammation, they are greatly oppressed. I have met with many cases of this kind. Baron Larrey, the great French surgeon, mentions several such cases; and in these, patients have been saved by openings into the side.

Inflammation will sometimes be brought on by distant irritation. I saw a case of inflammation of the lungs produced by a blow on the leg, which produced excitement, under which pneumonia arose.

10. Mechanical Substances.

These are irritants, and very often create inflammation. For example, an inverted hair in the eyelid, a grain of sand, or other small foreign body in the eye, will excite inflammation there. I saw a lady who was labouring under very severe ophthalmia, which had resisted all the ordinary measures adopted to subdue it. On examination there was found a very small hard body impacted in the lucid cornea, which being removed the inflammation subsided. I am attending a lady who has occasionally attacks of pain in making water, and on examining the urine at these times small pieces of calculus are invariably found. One of them I examined by means of a microscope, and it is a small triangular block. These calculi are obtained by filtering the urine through paper, and examining the sediment minutely. This shows how minute a medical man should be in the investigation of the causes of inflammation. Such minuteness not only tends to lay the foundation of a medical man's reputation, but also to confer comfort upon individuals; for knowing the cause we are better able to accomplish our end by precision in the application of remedies. Sometimes a broken rib is the cause of inflammation. If you see an individual labouring under dyspnœa after a fall, you should examine the ribs one by one from the sternum to the spine, to ascertain whether there be a fracture.

11. Acrid Fumes.

Some of these are irritants, and sometimes give rise to inflammation. Smoke, inhaled down the air-passages, or applied to the eye, frequently inflames those parts.

12. Certain Medicines.

Some medicines also are local irritants in particular states of the

stomach. Purgatives of Calomel, Scammony, and Colocynth, followed by Senna and Salts, will frequently produce serious inflammation.

IV. Interruptants

are those agents which interrupt the flow of the blood either through a vein or through an artery. They are of various kinds—

1. Ligature or Bandage.
2. Hernia.
3. Spasmodic Stricture.
4. Mechanical Distention.

Of this kind may be considered an overloaded state of the colon, or an over-distended state of the urinary bladder.

5. Earthy Deposit on the Arteries.

For example, ossification of the arteries of the leg.

6. Various Tumors.

These pressing on the arteries and veins interrupt the current of the blood.

LECTURE XII.

COMMON CONGESTIVE FEVER.

PREVENTION.—SYMPTOMS.

In this lecture I shall commence the consideration of common fever, of which there are three varieties. The first of these is—

COMMON CONGESTIVE FEVER.

This form of fever proceeds from one set of common occasions, which we call depressants, and which I particularly described in the last lecture.

But in order to the production of such a condition from the operation of these agents upon the body, a certain concurring state is generally necessary, which state we call predisposition. And what constitutes the predisposition to congestive fever?—It is, in one word, Debility.

1. This debility may be general.

Nothing is more common than an attack of congestive fever in weak convalescents from the application of a low or variable temperature.

2. The debility may, however, be local, while the general system is apparently strong.

There may be some local fault, which is very often found to exist in the bronchial linings of infants, and still more frequently of old persons. Again, an old person in whom any organic affection of the heart exists is very apt to be thrown into a state of common congestive fever by any depressant; for example—evacuations dispose to congestive fever, because they debilitate. In the same way pain also disposes to it, because it ultimately debilitates. Nausea, too, and certain odours for the same reason dispose to it.

Common congestive fever occurs far most frequently in infants and in old persons, because at these periods of life respectively persons have less power than any other individuals of resisting the operation of depressants. Next to these congestive fever occurs most frequently to individuals of from twenty to thirty years of age whose surface is pale and who are of a lax fibre.

The late Dr. Currie, of Liverpool, has observed that you might almost measure the strength of an individual by referring to his capability of resisting the influence of a low or variable temperature. And this as a general rule is correct; but there are certain exceptions to it. Some delicate individuals, with a very delicate nervous system and a very active intellect, have a most astonishing power of resisting the influence of a low or variable temperature. This, however, forms perhaps almost the only exception to the observation of Dr. Currie.

As then any individual may become temporarily weak, and, being exposed to a depressant, may have an attack of congestive fever; and as by a concentration of influence a depressant may produce its effects upon even a strong individual; we are led to consider the

PREVENTION OF COMMON CONGESTIVE FEVER.

It is very well known and universally admitted that prevention is far preferable to cure. And this prevention of congestive fever may be accomplished by certain precautions. One mode of preventing an attack is—

1. To preserve the natural temperature of the surface.

This is done most effectually by the use of a shower bath; beginning (if the individual be delicate) with water at the temperature of 96°, and gradually decreasing it one degree a day till it is reduced to 60°, when you may stop. The reduction of the temperature of the water should be gradual; for the human body, if delicate, will seldom bear sudden changes well, but it will bear almost any thing if the transitions be gradually made. An ounce or an ounce and a half of common salt should be added to each gallon of water. A bath thus used gives tone to the vessels, by which they are enabled to retain nearly the same quantity of blood on the surface under very great variations of temperature.

Some individuals may object to the use of the common shower bath; and then affusion may be employed, as it is by the Indians. You may for this purpose make use of a tub, made somewhat like a washing tub. Then, being prepared with two jugs, each containing two gallons of water of a proper temperature, let these be placed upon a table of a convenient height: having poured also some water of a proper temperature into the tub, place in it a stool, upon which the individual is to sit naked while the water is poured over the surface of the body; first one jug and then the other being emptied over the shoulders. The surface should then be thoroughly dried. Or, instead of this plan, sponging the surface may be adopted. A large piece of sponge dipped

in water of a proper temperature may be squeezed over the shoulders. All this may be done in a few minutes. The use of a bath in this manner is one of the best modes of preventing all febrile affections.

In infants and old persons it is very important to clothe the surface well, for they have very little power of retaining their animal heat, and are consequently far more easily chilled than other individuals: therefore, their clothing ought (to use the popular expression) to be warm. Crowds of old persons die every winter from exposure to cold air. A person of advanced age, for instance, walks out on a very cold day, and suddenly dies of an attack of congestive fever.

The regulation of the temperature of the apartments in which infants—and especially in which old persons—live, is very important. Many old persons might be preserved from such attacks as I have alluded to, and from a bronchial affection, by remaining in a regulated temperature during the depth of our winters, when the cold is severe: they should be content to keep themselves at home as much as possible in winter; or, if they venture out, they should be clothed with some non-conductor of caloric.

I saw a man who became chilled one morning, and remained chilly some time; at length he grasped his head with his hands and suddenly fell down and died. Dissection proved that he died of congestive fever. I have preserved many old persons, year after year, by recommending them to keep within doors during the severely cold weather.

The next point with regard to the prevention of common congestive fever is—

2. To maintain the strength of body and tranquillity of mind.

1st. The strength of the body is best preserved by proper diet and drinks, by a proper quantity of sleep, and by a due regulation of the mind.

2d. With respect to the tranquillity of the mind, it is the business of philosophy to teach how it is best preserved. If I had to pass my life again, I would guard against nothing so much as the anticipation of evils for the future. Many persons destroy all their happiness by gloomy apprehensions of evils before them; they are perpetually prying into futurity and expecting evils which never occur; and the anticipation is generally far more heavy to bear than the actual existence of the evil apprehended, come when it may.

The last method by which we may contribute to the prevention of common congestive fever is—

3. By avoiding the predisposing and remote occasions.

The great utility of enumerating the predisposing and remote agents

is that they may be shunned. It is astonishing how useful a medical man might be in his intercourse with society, in pointing out the circumstances which give rise to the affections to which the body is liable. And I believe that one of the most useful works which has appeared in connexion with physic might be published on this subject: for these are points which are intelligible to the public, which is not the case with any other department of the practice of physic,—unless an individual be acquainted with the anatomy and physiology of the body, and have made his observations on the influence of remedies on affections at the bed-side of the sick.

Suppose a concurrence of predisposition and of exciting occasions to exist, sufficient to produce an attack of common congestive fever, what are the circumstances which characterise it?—We may divide the—

SYMPTOMS OF COMMON CONGESTIVE FEVER

into Generical and Particular. The generical symptoms are common to all the forms of congestive fever: the particular symptoms are those which belong to each variety of congestive fever.

The following are the

GENERICAL SYMPTOMS

of common congestive fever:—

1. More or less reduction of the heat of the skin.

You must here take into account the natural heat of the skin, which ranges from 96° to 98°, and is diffused over the whole surface of the body: but in common congestive fever the heat is considerably lower than this.

2. More or less prostration of the muscular power.

You must ascertain the power in health; and then consider what is the degree of prostration, which is always in these cases more or less considerable.

3. Diminution or oppression of the heart's action.

The pulse is the stroke of the heart, and by the stroke of the heart we make out its force and frequency of action. In common congestive fever the pulse in the worst cases is weak, and irregular, and small. In the less strongly marked cases the pulse is oppressed, that is, the stroke of the heart is more protracted than natural, or made with a sudden laborious jerk, which you will readily recognise when you have once felt it.

4. More or less lassitude or torpor.

By lassitude I mean debility of mind or incompetency of mind. By torpor I mean a diminution of the sensibility.

With respect to torpor there are some exceptions; for in certain cases of congestive fever there is an increase of sensibility, as evinced by the patient complaining of pain in some part or other.

5. Disturbance in the functions of some important organ.

The functions of the skin are most remarkably disturbed. Here then is the disturbance of the functions of an important organ externally.

But the internal organs also undergo certain changes, and these take place chiefly in the following parts.

1st. The heart and large adjacent veins.

2d. The lungs and mucous membrane of the bronchia.

3d. The brain or spinal cord, or both, with their appendages.

4th. The liver and vessels associated in its circulation.

I shall for the present assume that these parts are congested, as I shall hereafter prove demonstrably that they are; and shall now explain the

PARTICULAR SYMPTOMS.

Suppose the congestion to exist in—

1. *The heart and large adjacent veins.*

It is then denoted by the following symptoms:—

1st. Some uneasy sensations in the region of the heart.

This may be a sensation of weight, of load, of extraordinary oppression, &c.

2d. A deficiency of power in breathing.

This is what is commonly called want of breath.

3d. A small, weak, irregular pulse; or an oppressed pulse.

By an oppressed pulse I mean that the stroke is protracted more than natural, or that it is made with a more laborious jerk than natural: it is a kind of jerk that you will very easily recognise when you have once felt it.

Lastly, you should examine the stroke of the heart in its proper region; and you will find that there is not that correspondence which naturally exists between the stroke of the heart as displayed in its own proper region and as displayed in the pulse. This arises from an interruption which generally occurs in these cases to the flow of the blood from the left ventricle.

Suppose—

2. *The lungs and bronchial lining*

to be the seat of congestion, the two following are the most remarkable characteristic symptoms:—

1st. A peculiar colour of the lips and cheeks.

a. The lip is either of a plum colour, or of a violet colour, or of a leaden colour.

b. Again, the hue of the cheek is various in consequence of the variety of the natural colour. If the cheek had been vividly red in health, it puts on a plum or a dusky colour; if it had been pale in health, then it assumes a pallidity which is mixed up with a leaden livor.

2d. A laborious, or a weak, short, frequent respiration.

a. Either the chest heaves up and down with very great labour indeed; or—

b. Air is given out and taken in in smaller quantities than usual, and the respirations are weak and more frequently performed than usual.

In the worst cases there is no cough nor any expectoration, but by putting your ear to the patient's mouth you may frequently hear a whizzing or purring deep in the bronchial passages; and this is heard still more distinctly by the application of Laennec's instrument. In some cases, however, recollect that there are both cough and expectoration.

The influence of the lungs on the brain is extremely important, and is communicated in two ways.

First: The lungs influence the brain *mechanically.* When the respiration is laborious, or when it is very weak, there is a resistance offered to the transmission of blood from the right ventricle of the heart; in consequence of which an over-accumulation takes place in the ascending and in the descending cavæ—especially in the ascending cava. The brain becomes in this way preternaturally gorged with blood.

Secondly: The lungs influence the brain *chemically.*

For when the respiration is weakened, so that a sufficient quantity of air does not enter the lungs; or when the bronchial lining is so besmeared that the air does not come so fully as in health into contact with the blood in its passage through the lungs—the blood is not sufficiently oxygenated or decarbonized; and a dark sort of blood circulating in consequence through the arterial system operates almost precisely as a narcotic does upon the brain.

Suppose—

3. *The brain and its appendages*

to be the seat of venous congestion, there are four symptoms of such a condition upon which you may rely:—

1st. Confusion; indifference or insensibility to surrounding objects; or giddiness, with pain.

In severe cases there is great confusion of intellect; in still more severe cases you have indifference or insensibility to surrounding objects; but if the case be still less severe, so that the individual has sense enough to know what he is about, he will often complain of giddiness, with pain.

2d. An intoxicated, a stunned, or an alarmed expression.

In the most severe cases the patient will lie with his eyes closed. In the less severe cases there will be a stunned or an alarmed expression of countenance; and with this change in the countenance the patient will complain of giddiness, with pain.

3d. A blanched state of the conjunctiva, with a watery appearance of the eye.

4th. Either a dilatation or a contraction of the pupil.

The pupil in these cases generally is dilated; sometimes, however, it is contracted. You must recollect the natural size of the pupil. You may assert pretty correctly that the pupil naturally is as one to three compared to the lucid cornea; and every thing beyond this may be called a preternaturally dilated pupil; while every thing within it may be called a preternaturally contracted pupil. As there is, however, a great variety of states of the pupil natural to certain individuals, you will sometimes find it proper to ask the parents or relations of the patient if they observe any difference from the natural state of the pupil.

There is no doubt that the brain exerts a most important influence upon the lungs, principally by the eighth pair of nerves according to the arrangement of the old physiologists. Legallois divided the eighth pair of nerves, and respiration was stopped. If you want to know in any case whether an affection of the lungs be primary or secondary, you must investigate the history of the case. If it be secondary when the brain is simultaneously affected, it is through the influence of the brain upon the lungs. Very frequently a patient dies of inflammation of the brain with a purple lip and oppression of the breathing.

Suppose—

4. *The spinal cord and its membranes*

are the seat of congestion, you have the following symptoms:—

1st. General convulsions or partial spasms.

If the spinal cord and its membranes alone be affected these convulsions or spasms will occur with a clear head. But if the brain and its membranes be also affected you will have other indications of an affection within the head.

2d. Wandering pains, or tenderness of the surface of the body.

With these there is some diminution of the sensibility of some part of the body. Suppose—

5. *The liver and its associate vessels*

to be the seat of the congestion, what are the symptoms?

1st. Nausea, retching, or vomiting.

The matter which is vomited may be merely the contents of the stomach; it may be, however, mucus, or it may be bile. Sometimes it does not amount to vomiting; but there is nausea or retching.

2d. Fulness, with flatulence in the epigastric region; or, as it is sometimes called, the pit of the stomach.

3d. Some uneasy sense of load, tightness, fulness, or pain, in the region of the liver.

4th. Diarrhœa, or constipation.

a. Most frequently there is diarrhœa: the stools being remarkably loose, chiefly consisting of mucus, and having the appearance of rice-water, or of thin gruel, and being sometimes mixed with blood. Generally there is a deficiency of bile; but sometimes, though rarely, there is a secretion of bile under a congestive attack of the liver and its associate veins.

b. When there is constipation the stools are generally of a light colour.

The tongue is most frequently moist, and covered with a ropy saliva, under all the forms of common congestive fever.

Congestion of the liver frequently exists with a simultaneous congestion of the brain and bronchial lining. And these parts seem to be all affected in what is called the Cholera Morbus of India—the worst form of which is nothing more than congestive fever; and the bronchial lining is almost always affected. But as far as I can find the affection of the bronchial lining has not been noticed, because that membrane seems never to have been examined in the dissection of bodies after the Cholera Morbus in India.

It usually happens, in common congestive fever, that one part is most affected; but sometimes different parts are simultaneously congested; and this will be known by the combination of the symptoms which I have mentioned.

LECTURE XIII.

COMMON CONGESTIVE FEVER.

PATHOLOGY.—NATURE.—INHERENT PROTECTING POWERS.

Having described the symptoms of common congestive fever, and the indications of its existence in the principal organs in which it is seated, we now come to the—

PATHOLOGY OF COMMON CONGESTIVE FEVER.

The morbid appearances, as displayed by dissection after death, in fatal cases, are two, and sometimes a third.

1. An over-accumulation of venous and arterial blood in the part, the functions of which had been disturbed during life; and especially in the veins: or—

2. An effusion of a serous or of a mucous fluid, according to the structure of the part.

For instance, in the brain and spinal cord a serous effusion; in the bronchial lining a mucous effusion; and in the intestines both a serous and a mucous effusion.

Sometimes there is—

3. An effusion of blood.

This may arise from rupture of a vessel, but there can be no doubt that in these cases it takes place more frequently from transudation than from rupture.

You might suppose there was a difficulty in ascertaining after death the seat of the congestion, because in death the blood naturally leaves the surface and retires to the internal parts of the body. It retires in the way which has been so correctly described by Shakspeare in a passage which I have been in the habit of quoting to illustrate this subject. Shakspeare says—

> "Oft have I seen a timely-parted ghost,
> Of ashy semblance, meagre, pale, and bloodless,
> Being all descended to the labouring heart;
> Who, in the conflict that it holds with death,
> Attracts the same for aidance 'gainst the enemy;
> Which with the heart there cools, and ne'er returneth
> To blush and beautify the cheek again."

And this is what takes place in every example of death; but still I think there is no difficulty in making the distinction between this and what occurs in common congestive fever, especially if you be in the habit of accurately noticing the natural appearances after death.

1. The *heart and large vessels* having been the seat of the congestion, will be found (especially the right side of the heart) far more crammed with venous blood than in ordinary examples of death.

2. When the *lungs and bronchial lining* have been the seat of the congestion, the lungs are so gorged with blood, as to resemble the spleen in structure; the bronchial lining is overloaded with blood, and generally there is an effusion of mucus or of serum. Sometimes blood will be found in the bronchial passages.

You might, perhaps, confound with the effects of congestion an unimportant accumulation of blood within the part which takes place in every case (from the position of the body after death) in the lower part of the lungs, and which is the natural consequence of the blood gravitating to the inferior part. You should observe, however, that this is confined to the inferior part; but in congestion of the lungs it pervades the whole substance of the lungs, so that they closely resemble the spleen. In these examples you will usually find the blood a mere fluid gore, or coagulated very slightly indeed.

3. When the *brain and spinal cord, and their membranes*, are congested, you find the pia mater loaded with venous blood; you find the sinuses loaded with blood; you find the membrane of the spinal cord loaded with venous blood: this is accompanied generally with effusion of serum between the membranes and into the ventricles of the brain; and there will sometimes be blood in the ventricles or between the membranes, and sometimes in the substance of the brain.

When the effusion is extensive the other signs of congestion are less obvious, as is the case in inflammation when effusion occurs.

In the effusion which occurs from venous congestion you have no coagulable lymph, as there always is mixed with the effused fluid in inflammation, but merely an effusion of thin transparent serum, or an effusion of serum mixed with blood; and this effusion acts on the veins in congestion as the effusion which takes place from inflammation does upon the arteries.

4. When the *liver and its associate vessels* are the seat of congestion the liver is excessively gorged with blood, so that if you cut it across the superabundant blood spouts out, and the veins of the mesentery are extremely loaded with blood; the splenic, the superior, and inferior mesenteric veins, are so gorged as to form a beautiful tree.

Take these circumstances in conjunction with the symptoms during life, and you can then form a very near approximation to a first principle, to the condition in short which produces these symptoms. Cholera morbus, we are told, has been in some parts very destructive; and here we shall see the bad effects of names without precise ideas. Our systems, Thomas's Practice of Physic for example, have a set of names arranged and remedies described. Under these names pathological states essentially different are included. Vomiting and purging in inflammatory fever require different treatment to vomiting and purging in congestive fever. It is very important to attach precise meanings to words, and not to surrender your judgment to other men, but to think and act for yourselves. I shall endeavour to teach you the correct method of practising physic; but you must inquire for yourselves whether what I say is true.

NATURE OF COMMON CONGESTIVE FEVER.

What then is the pathological condition, or what are the pathological conditions, upon which common congestive fever depends? You must remember that it is produced by common depressants, or those agents which at the same time diminish the animal heat, the muscular power, and the heart's action; and all of which act either indirectly or directly upon the nervous system.

Some of them act *indirectly;* as the temperature, which changes the distribution of the blood, and through it operates on the nervous system.

On the other hand, mental emotions and some other depressants, act *directly* upon the nervous system. Both, however, have a similar ultimate effect on the internal organs. And what are these ultimate effects?

I merely use the term Congestion as a collective appellation, to denote a state under which several circumstances, each highly important, are comprehended. Under this term there are ten circumstances combined.

1. The reduction of the animal heat on the surface of the body.

Do you ask me for a proof?—You have it by laying your hand upon the surface, and you will perceive that it feels colder than natural.

2. A recoil of blood from the surface to the centre of the body.

If you ask me for the proof, you have it in the remarkably feeble pulse, indicating that the arteries contain very little blood; in the

emptiness of the capillary vessels, which leaves the surface pale; and if you open a superficial vein under these circumstances you will find hardly any blood in it, which is a distinct and direct proof of this circumstance.

3. A consequent excess on the venous side of the circulation.

That excess is evident from the state of the arteries during life, independently of the appearances displayed on dissection after death.

4. A correspondent deficiency on the arterial side.

That deficiency is evident from the state of the pulse, and from the diminution of the animal heat; which prove it almost demonstrably. The natural equilibrium is then disturbed,—there is a loss of the natural balance between the arterial and venous systems. But this is not all, for—

5. The heart has sustained a shock then.

This is demonstrable, as displayed at the wrist and in the region of the heart, by the change in the action of the heart.

In consequence of this shock there is—

6. An impediment to the free return of venous blood; and that leads to the following as its necessary effect, namely—

7. An over-accumulation of blood in some weak internal part. This can be demonstrated by an examination after death.

8. The respiration is weakened, or the bronchial lining is besmeared.

The individual either cannot take in sufficient air for the blood in its passage through the lungs to undergo its proper change from the venous to the arterial character; or the bronchial lining is so besmeared as to prevent the air which is inspired from coming into contact with the blood.

You have proofs of the respiration being weakened, during life; and of a besmeared state of the bronchial lining, by examination after death.

9. The constitution of the blood is thereby changed.

The proof of this change, during life, is the darkened colour of the blood in circulating through the lips or over the cheek; and, after death, you find the blood a fluid gore, or darker than natural.

10. A diminution of the nervous and muscular power.

This perhaps is referrible to the state of the lungs, or of the bronchial lining; for when less air than natural is taken in at each inspiration, or when the bronchial lining is so besmeared by an over-accumulation of mucus, that the venous blood in passing through the lungs is not properly converted into arterial blood; then the blood

which has been only partially arterialised, circulating throughout the arterial system of the body, affects the nervous and the muscular systems.

It is a deficiency of the nervous and muscular power which renders the individual so weak: and when he cannot take in sufficient air, or when the bronchial lining is affected as I have described, then the muscular power is invariably affected.

There is no doubt that the muscular power is depending upon a subtle something communicated along the nerves. We might illustrate this, in some degree, by reference to a candle, or to a fire, which, if they be not sufficiently supplied with air, will not burn brightly. But if the lengthened wick of the candle be removed, and if the charred fire be stirred, so as to expose a fresh surface to the air, then it will burn vividly. The fire becomes dim for want of ventilation; it is charred on its surface, and it becomes more and more dull until at last it goes out completely. This is a pretty apt illustration of what takes place in those states of respiration to which I have just alluded. For life really seems to be connected with a species of combustion. It seems necessary that a certain quantity of charcoal should be consumed for the purpose of supporting the functions of life; for unless a proper quantity of arterial blood circulate through the brain and its membranes, the result is a deficiency of the nervous and muscular power. One might, almost, *à priori*, suppose, that if this fire were properly fed, it would, like the sacred fire of the Perses, burn brightly and immortally: but experience teaches us that when once it is extinguished,

> "We know not where is that Promethian heat,
> Which can its light relume."

The probability is that there is yet some important discovery to be made with reference to the nervous system; for there is unquestionably a subtle something—a *tertium quid*—the result of some mysterious change with which we are at present unacquainted. In chemistry two substances, of directly opposite nature and character, being brought into contact, a new compound is formed, different entirely from the characters of either of them. There is an example of this in glass. There seems something analogous to it in music. We have a flute, and a person who plays on it: the result is music, which is unlike either of the original component parts. So I believe, that by some very mysterious function of life, there is produced from the contact of arterial blood with nervous matter a certain ultimate result,

a *tertium quid*, entirely differing from its component parts—differing, that is, from either nervous matter or arterial blood.

NATURAL PROTECTION FROM COMMON CONGESTIVE FEVER.

But for certain powers inherent in the body few individuals would be secure against attacks of common congestive fever. These are—

1. A power of preserving an uniform temperature.

Hence the circulation is, generally speaking, preserved, for the temperature of the body has great influence in preserving the equilibrium of circulation in the venous and arterial systems.

2. The elasticity of the vessels.

This is so great, that they admit of considerable distention before their contractility is in any degree destroyed.

3. The anastomoses or communications of the vessels.

By means of these the blood is divided among many organs; and the pressure of the blood is consequently divided, so as frequently to prevent mischief which would otherwise occur. Many organs are saved from a state of congestion by—

4. The compensating office of other organs.

You have a most remarkable example of this in the kidneys. When the surface becomes universally chilled by the application of a low temperature, the consequence generally is a copious flow of urine, which lessens the quantity of the circulating fluids. In the same way, in some instances, a copious secretion takes place from the mucous membrane of the bowels; from the mucous membrane of the air passages; or from the lungs themselves, perhaps, in the form of vapour.

5. The increased secretion of the organ attacked.

This very frequently saves the life of an individual; for instance, increased secretion from the bowels or from the bronchial lining.

In some places there is no outlet, as in the pleura and brain; and therefore, when effusion takes place into such parts, it often becomes very important.

6. An exudation of blood, or effusion from rupture.

If there be an outlet an effusion of blood will sometimes carry off the congestion; as from the bowels, or from the bronchial lining.

If all these powers fail, there is yet another inherent in the body, which is called—

7. Reaction;

By which it mostly happens, that the congestion is removed spon-

taneously. The word Reaction, as it is used in physic, is improper in pathology. The state which it is meant to denote is an increase of the heart's action with an increase of the animal heat, which state I shall call Excitement. When the whole surface is cold the heart in most cases is roused by the venous accumulation in its right side, and establishes what is called the hot state, or state of excitement; and by this method the circulation in the venous and arterial systems is restored to its natural conditions. The most formidable attacks of common congestive fever are those in which reaction or excitement does not—and the least formidable, those in which it does—take place. If the excitement be perfect; if the heart's action be increased, not only in force but in frequency, and if the heat of the surface of the body be at the same time higher than natural; then a state exists which is far less dangerous than that of simple congestion. When, however, the excitement is imperfect, or partial; when the extremities remain cool, and the pulse continues oppressed: a state exists which is nearly as dangerous as that of perfect congestion, because there is a congesto-inflammatory state of the organs; or a mixed state of congestion with inflammation, and partial excitement. But suppose neither of these states to occur, then we have a perfect example of what I call Congestive Fever; and in this case we must assist nature, and endeavour to create a state of excitement by certain artificial means.

LECTURE XIV.

COMMON CONGESTIVE FEVER.

SYMPTOMS AND TREATMENT OF THE EXTREME, INTERMEDIATE, AND MILD FORMS.—PROGNOSIS.

Towards the close of the last lecture I stated that when a state of depression was not followed by excitement, induced by either of those inherent powers of protection which the human body enjoys, it was our duty to assist nature in bringing about so desirable a purpose; and this brings me to the consideration of the—

TREATMENT OF COMMON CONGESTIVE FEVER.

There are three forms of common congestive fever; the first of which I shall call the extreme, the second the intermediate, and the third the mild form.

THE EXTREME FORM

is marked by the four following symptoms:—

1. By a cold skin.
2. By a small weak pulse, mostly irregular.
3. By a feeble or an oppressed respiration.
4. By great prostration of the muscular power; so that the patient feels, as it were, a dead weight upon the arms of his attendants; and—
5. By great topical disorder.

This disorder is chiefly seated in the heart, brain, lungs, bronchial lining, and liver.

The indication of the treatment of this form is to restore the natural balance between the venous and arterial circulation. How is this to be accomplished?

1. By exciting the heart, through the internal administration of stimulants.
2. By exciting the skin, through the external application of caloric.

The methods by which these intentions are to be effected are the following:—

The heart can be excited by the exhibition of—

1. Diffusible stimuli.

One of the best is brandy or wine. There is no stimulant in the apothecary's shop equal to these: the advantage of which is that either is extremely agreeable to the patient, pleasing to his taste, and grateful to his stomach; whereas æther and ammonia are more or less offensive to the taste and stomach. Brandy especially is the best; and as to the quantity, it must depend entirely upon its effects. If the patient labour under a combination of the five symptoms which I have enumerated as indicating the extreme form of congestive fever, a small quantity of brandy will sometimes excite the heart at once—so that the patient will very rapidly recover. There will be a sudden accession of power in the respiration, so that a large quantity of air will be taken in, and the heart will act with vigour.

You may give the brandy pure—"dry brandy" as it is called—at first by tea-spoonfuls, and watch its effects on the heart's action and upon the respiration, till the heart's action is considerably increased, till the universal heat is in some degree restored, and till the respiration is relieved. If brandy be not at hand, then white wine answers best, and especially sherry. Brandy or wine taken into the stomach in these cases will not only excite the heart's action; but, independently of this, there exists a sympathy between the stomach and the surface of the body. This will be readily proved by the sensations which a person experiences in drinking a cup of hot tea, or a glass of cold water.

Sometimes opium has an excellent effect in conjunction with either brandy or wine. With respect to the dose of the tincture of opium, it should be seldom less than from thirty-five to one hundred drops to an adult in extreme cases.

Another method of exciting the heart consists in the administration of—

2. Hot drinks, when the patient is thirsty.

Sometimes he has an inclination or desire for cold drinks, which is by no means to be indulged; for, in this case, they will chill him more and more. You may, however, just moisten his mouth with some cold fluid, which will often be very grateful, and will do him no harm.

One of the best drinks in these cases is a strong infusion of ginger: but you must take care not to over-distend the stomach; for if you do, the cold skin, and the feeble pulse, and the weak perspiration, will generally be aggravated.

3. The administration of a warm stimulating enema.

For this purpose nothing answers better than an injection of a strong

infusion of ginger, which unloads the colon, and tends to bring a flow of blood to the surface. If you cannot get this, the tincture of ginger, or the aromatic confection, may be thrown up as an injection. Recollect, however, that these stimulants are only to be given while the five combined symptoms I have mentioned remain.

When the strength is completely subdued be exceedingly careful to avoid purgative medicines in the first instance.

With these means you may use also the following, which will excite the skin.

4. The application of the hot-air bath.

The simple apparatus used in applying the hot-air bath consists of a frame of basket work, of an arched shape, open at one end, and about six feet in length. The patient having been laid on a warm blanket, this basket is to be placed over him, and covered with one or two blankets (two are generally best,) which are to be tucked under his chin. At the opposite and closed end of the frame is attached a tin tube, communicating with the interior of the frame; and at the lower end of the tube is to be placed a spirit lamp lighted. As the tube is very apt to get hot, you must take care that the blankets do not touch it, or they will be burned. If the heat become uncomfortable to the feelings of the patient, you may remove the spirit lamp for a short time, and then apply it again. The apparatus may be made more portable by having the basket made in three pieces.

The application of the hot-air bath is one of the most powerful means I know of for the removal of the urgent symptoms of common congestive fever.

The fatigue produced by the use of the hot-water bath is frequently fatal; but, on the contrary, the hot-air bath does not at all fatigue the patient, and it restores the natural degree of heat to the surface more suddenly than the water bath. In about half an hour it will bring pounds of blood on the surface of the body, which were previously suffocating some internal organ; it will produce a general perspiration; in short, it will restore the balance of the circulation sooner than any other means I know of.

Bontius, in his work on the diseases of the East Indies, mentions the great utility of a hot-sand bath in cases of the common congestive fever in hot countries, though he was entirely ignorant of the pathology of those diseases. He observes that in the cholera morbus of India those patients who were put into hot sand recovered; and many persons have observed that in the same affection nothing is so useful as wrapping the patient in warm blankets, and laying him before a

large fire. But the hot-air bath is the best; and next to it would be the vapour bath—the patient being wrapped in oil-silk, and surrounded by the vapour of hot water.

If neither a hot-air bath nor a vapour bath be at hand, wrap the patient in warm blankets, and lay him before a large fire: apply bottles of hot water to his feet, and bladders of hot water to the region of the stomach.

Sydenham mentions his having been ridiculed by certain physicians of his day for recommending an individual in this state to be placed between healthy persons in bed. The plan is, however, sometimes very expedient.

I saw a woman who was apparently sinking of congestion after a large uterine hemorrhage, and after every other method had failed to return the heat of the surface, I succeeded completely by placing a healthy woman in bed on each side of her.

It is a very dangerous thing to ridicule any opinion which is borne out by matter of fact. The opinions of Laennec met with universal ridicule in this country, but there is no doubt they have been, and will be, productive of great benefit. There is now an extraordinary tendency to ridicule individuals on account of their opinions. I have as much respect as any man for the liberty of the press; yet I am sure nothing is more pernicious than so much personal allusion as exists in the press at this time. The malignant spirit which is nursed in our periodical journals, and thrown at individuals so unmercifully, will deter many men of delicate minds from communicating their knowledge to the public. Had Sydenham lived in our day I believe he would not have promulgated his opinions in print, on account of the bitter feeling displayed by the periodical press.

5. The regulation of the temperature of the apartment and the bed clothes.

As long as the patient's skin remains cold have a high heat in the room, and let the patient be covered with new, which are better than old, blankets. At the same time you must have plenty of air.

The next circumstance, and one which is of very great importance, is—

6. The regulation of the position of the patient.

Life frequently depends in these cases upon the individual keeping the recumbent position. I have known many patients lost by allowing them to get up to a night-chair in this state; the heart flags so much in the erect position, that it very often produces a syncope, which is very rapidly fatal. In this form of common congestive

fever you must be extremely cautious about evacuations. It is best not to abstract any blood till you have, in some degree, brought about excitement; for extreme cases of congestive fever occur under states of profound exhaustion. The best surgeons lay it down as a rule, that you are not to bleed in what they call concussion of the brain till excitement has taken place. What they call concussion of the brain,—which is an abstract term, involving states essentially different,—is in some examples nothing but a variety of common congestive fever; in others, however, the brain is seriously injured. In some the brain is found gorged with blood, and in others a rupture is found: but I repeat, that in some cases no organic change is produced, and they are nothing but examples of common congestive fever.

Suppose the efforts of nature are inadequate to the restoration of excitement, are you to stand by and see the patient die with a cold skin, without endeavouring to assist those efforts by artificial means? —Certainly not; you must endeavour to create excitement, and, in the mean time, must be careful of abstracting blood. Shortly after I came to London, I was one day walking along Piccadilly, when I saw a man fall from a scaffold; a surgeon was called in, and abstracted blood, which proved almost immediately fatal.

I am confident that I have lost many patients from bleeding in extreme cases of congestive fever. Every medical man in the progress of life reflects, if he have any feeling at all, on those fatal cases which occur in his practice, and endeavours to find out a better mode of treatment; and a man should always rather suspect the fatality to arise from his own ignorance than from the violence of the disease.

Whenever you are called to a patient in the extreme shock of an accident, with a pale skin, with a sunk countenance, with a feeble pulse, and with a weak respiration, do not bleed him at all, but give him a little wine or brandy. A friend of mine was called to a young lady in this state, about three weeks ago; the friends of the lady urged him to bleed her, but he refused, and told them that if he bled her she would die. On the contrary he gave her diffusible stimuli; and he did perfectly right. It is by far too common for medical men to abstract blood immediately they are called to an accident; but the first extreme shock should be past before blood-letting is resorted to. One gentleman, whom I saw frequently in the country, used to treat common congestive fever, first, by brandy; secondly, by the hot-water bath; and thirdly, by bleeding. He was a very good practitioner, but his ideas passed so rapidly through his mind, that he had not time to analyze them. His practice was to put the

patient into a hot-bath with salt, and during the time he was in the bath he gave him brandy, and then bled him. Now this is not bad practice. He, in fact, created a degree of excitement before he abstracted blood; and then he bled with great caution: when he had once created excitement, then he ceased to use stimulants, either internal or external; and that is the proper plan to adopt.

I saw a gentleman one morning who had an attack of the extreme form of common congestive fever. His surface was universally pale and cold; he had an intoxicated expression of countenance; when lifted, he dragged his limbs after him as if they were paralytic; his lip and cheek, together with the state of the respiration, showed an extreme congestion in the lungs and bronchial lining; he had also copious purging and vomiting; in short, he had congestion in the brain, in the bronchial lining, in the lungs, and in the liver; and laboured under what would be called an attack of cholera morbus. The attack came on at seven o'clock, and I saw him at eight; and I am confident he would have died in an hour or two more. All the ordinary means had failed to create excitement: brandy, opium, and so on, had been tried; and then I sent for a hot-air bath. In half an hour after its application the surface became universally warm, and he was perfectly convalescent.

I attended a young lady who was attacked with giddiness, universal and oppressive debility, vomiting, and diarrhœa. When I saw her she looked like a person intoxicated: the tunica conjunctiva was blanched, the face pallid, the surface of the body cold, the respiration weak and impeded, and the lips were blue; she had no muscular power—the head rested on her shoulder, and the hands were by her sides. I placed bottles of hot water to the feet, a bladder of hot water to the stomach, and gave her hot water and opium internally. Nothing, however, was of benefit, and it was apparent that she was rapidly sinking. In this case I sent for a hot-air bath, which was immediately applied; and in half an hour the pulse rose and was bounding, her countenance became animated, and she was nearly convalescent. Nothing further was required but the exhibition of slight calomel purges. This, according to our nosologists, would be called cholera morbus, but it was a case of congestive fever; and in these cases, if assistance be not promptly rendered, death will be the consequence; the blood will coagulate in the interior of the body.

I saw another individual, who was brought into the Fever Hospital, who was sinking very rapidly from an extreme form of congestion of the lungs, and of the bronchial lining: and the hot-air bath

produced a state of excitement almost immediately, and by following this up by small doses of calomel and opium, he did perfectly well.

Just before lecture one evening I was called to a young lady, who had been out all the morning, and was very cold, and as soon as she returned home ate a piece of cold apple-dumpling. She had an idiotic expression of countenance; she was stupid, and had a flow of saliva from the mouth; the respiration and heart's action were impeded, and her skin was universally cold. I directed the exhibition of an emetic, which did not operate; but by the application of the hot-air bath all these symptoms were removed with very great rapidity, and on my return I found her convalescent.

I recollect I saw a young man who laboured under an extreme form of congestion in the spinal cord; he was struggling in convulsions, with a clear head, and with a feeble pulse; and the symptoms in this case were rapidly removed by the use of the hot-air bath. This individual was afterwards preserved several times from an attack of congestion by the administration of drachm doses of the tincture of opium.

In cases of febrile disorder, in which the skin is universally cold, opium may be given, especially if the brain be not so affected as to oppress the respiration; for if it be, opium is generally better omitted.

There are some cases of perfect collapse following excitement, in which the skin is universally cold; as, for instance, when, after vomiting and purging with fever, the pulse falls in force and frequency, but is small; the heat declines on the surface; the face becomes pale and sunk; and the patient lies prostrate on his back, becomes insensible, and seems in the agonies of death; and if you prescribe a full opiate, and small doses afterward, in twenty-four hours you will see the patient, perhaps, sitting erect in bed.

In some cases of irritation and exhaustion after copious bloodletting, opium is very useful.

Sometimes a warm-water bath answers a very good purpose.

I saw a gentleman who was chilled by bathing, and fell down upon the beach: he was taken to a house very near, and put into a warm-bath; and he perfectly recovered.

When individuals are *gradually* chilled, nothing is so good as rubbing the surface with snow. This plan is very often adopted in North America, the surface being rubbed with snow till it becomes warm.

A small portion of the body may also be chilled, and then its vitality is best restored by rubbing it with snow till it becomes warm.

When offending ingesta produce congestion life sometimes depends on the exhibition of an emetic. You read in the papers of cases of

apoplexy arising from this source; but the fact is, the stomach being disturbed, the heart's action sinks, and, by consequence, the flow of blood from the brain is retarded, and the patient falls down pale and insensible, and sometimes dies as if he were shot. In some cases the person may live in this state for hours.

In extreme cases the best emetic is sulphate of zinc. I saw a case in which it operated almost like a charm.

A gentleman who was travelling ate some cold veal pie, and fell on the floor in a state of extreme congestion, with the heart extremely oppressed. A large dose of sulphate of zinc was given, and all the symptoms were got rid of by vomiting.

In these cases sometimes emetics do not operate; and when the skin is universally cold, the pulse feeble, the respiration oppressed, and the prostration of strength very great, life may be saved by half a glass or a glass of dry brandy, with twenty, thirty, or forty drops of tincture of opium. Sometimes the pulse is struggling, the respiration anxious, the intellect clear, and the heat of the skin nearly natural; and then brandy is useful. If no emetic be at hand, introduce your finger into the throat, or tickle the fauces with a feather. A tea-spoonful of mustard given in tepid water will cause vomiting, or oil may be given for that purpose. These cases are often succeeded by inflammation, and therefore you should attend closely to the patient for a day or two. When a large quantity of spirit has been taken, the patient sometimes falls in the same way. If the pupil contract on the application of light, and an emetic operate, the patient generally recovers. If emetics fail apply the instrument. An elastic bottle has long been used for this purpose.

Shocks of other kinds require the same treatment in the first instance. Individuals seldom die of the shock from burns in the north of England, if large doses of opium be given: a great many died until opium was commonly exhibited. The same treatment is proper after the shock of operations in surgery. I believe that in these cases many individuals who are lost might be saved by opium, diffusible stimuli, and the recumbent position.

I have already stated that the same treatment is sometimes applicable to the collapse which follows excitement. An individual has been very much excited, and suddenly an universal collapse comes on, with a feeble pulse, &c.

I saw a young lady, the sister of a gentleman whose case I mentioned before (page 177); she had been powerfully excited in the first instance, and had afterwards vomiting and purging; in short, an attack of what would be called cholera morbus. I found her extremely exhaust-

ed, with a sunk countenance, with a cold skin, and with a faultering pulse. A full dose of opium entirely relieved these symptoms.

I saw a case of this kind in an individual who was apparently dying; his cheeks were sunk, his eyes turned upward, his pulse fluttering and weak, his skin universally cold, his respiration almost imperceptible. A full dose of opium removed all these symptoms, and he was perfectly convalescent.

Some friends of mine have told me that they have seen individuals rescued from the very jaws of death by the administration of opium, under the collapse of cholera morbus (as it is called) in India.

In some instances patients may be saved without the employment of the hot-air bath; and calomel and opium will be found to induce reaction. Opium has considerable influence in restoring the circulation on the surface of the body; given in a full dose it will in a short time remove the cold stage of intermittent fever.

Opium does good when the tongue is moist, but should not be exhibited while it is dry. I have given it with good success when the head has been affected; but my experience does not enable me to say whether this is judicious, nor what is the proper dose. But in affections of the lungs it is of great service.

THE INTERMEDIATE FORM

is distinguishable from the extreme form by the following circumstances:—

1. The animal heat is less affected on the surface, being about the natural standard, or perhaps rather less in the extremities.

2. The pulse is less sunk, but oppressed or labouring. This oppression gives to the pulse a feel as if the heart were struggling to throw off some superincumbent weight.

3. The breathing is less oppressed, and not weak.

4. The strength is less prostrate.

5 The topical disorder is less strongly marked.

When you see a patient in this condition you will recognise it at once by marking the countenance, which has not so sunk an appearance as in the extreme form. The animal heat, too, though low on the extremities, is not below the natural temperature on the trunk; the breathing displays more power, and the patient has more muscular strength.

These patients, if seen early, will generally bear bleeding well.

I saw a boy in this state with congestion of the brain; his pulse was oppressed and labouring. A few ounces of blood were drawn from his arm; his pulse rose, and a state of excitement was fully developed.

Apoplexy sometimes comes on in this way. And the abstraction of a little blood in these cases often either wholly removes the congestion at once; or creates a state of excitement, a state far less dangerous than that of congestion.

A gentleman labouring under dropsy of an inflammatory kind, and having an inflammatory pulse, desired my services. He gorged himself, and on my visiting him he stared at me like an idiot, and had all the marks of venous congestion. He was bled, and rapidly recovered. A second time I attended him; and a third time he gorged himself so as to require again to be bled. He lost his inflammation, but his sight was materially affected from some mischief done to the brain.

Some persons will risk all the consequences, even if they are informed of them, merely for the sake of the present gratification of their desires.

By the way, dropsy is another abstract term, involving essentially different states. All dropsy, according to the nosologists, is explained by weakness, which is a very convenient word for the purpose.

Sometimes the quantity of blood abstracted in these cases should be small, sometimes large. Occasionally it happens that on opening a vein the blood at first only trickles or oozes out like so much tar, and then you must persevere and wait a quarter of an hour. The blood will soon come out in drops, then in jets, and lastly in a full stream; and as this occurs, the pulse becomes full and very strong, from the heart's forcible action. This circumstance perhaps indicates, that the forcing power of the heart extends through the whole circulation.

There is one rule to be remembered with regard to the abstraction of blood in these cases. If the pulse rise under the bleeding, and become fuller and stronger, and more round and resisting, you may generally safely proceed in the abstraction of blood; which will be beneficial, provided you stop short of syncope. But, on the contrary, if the pulse sink under the evacuation, the sooner you tie up the arm the better. This rule is applicable in all those cases in which you have any doubt of the propriety of bleeding.

Never bleed a patient to syncope in congestive fever; for if you do, he may die under that state. It is better to stop while you have a pretty round pulse. And here I may remark, that in cases of organic affection of the heart you should never bleed to approaching syncope.

Afterwards you may use purgative medicines.

The blood drawn in common congestive fever never shows the buffy coat; sometimes it does not coagulate in the vessel; and when the lungs and bronchial lining are much gorged, it is sometimes a fluid gore.

I recollect an individual, who was brought into the Fever Hospital, labouring under congestion of the lungs and bronchial lining. He was bled; and as his pulse became stronger and stronger under the evacuation, thirty-five ounces of blood were drawn before he was relieved.

I recollect I saw a lady who was in the puerperal state, and had convulsions. She had a turgid face, with a prominent staring eye, and extreme confusion of head, from congestion of the brain. A vein was opened in each arm, and forty ounces of blood were abstracted, with a complete removal of all the symptoms, and she was soon delivered.

I saw a young gentleman who had an attack of congestion in the brain, in the lungs, and in the liver; and two moderate bleedings entirely removed the affection.

In some persons, however, I should be afraid to abstract blood. To illustrate this, I may mention one case. A lady, whom I had known before, being ill, I was sent for, and I found that she had a remarkable change of countenance. She was a very accomplished and amiable woman, and had naturally an animated expression of countenance; but now she looked almost like a perfect idiot. She was labouring under an intermediate form of common congestive fever. She had been sitting the whole day over a miniature, and this, together with the position of the head, had produced the congestion in the brain. Her animation of expression was gone, per pupils dilated, her lips blue, and her face pale. Her breathing was weak, and her pulse oppressed: she could not give me a distinct answer, and the heat had failed in the extremities only. I did not venture to bleed her, but I opened the bowels by a calomel purge, gave her hot drinks, applied a small blister, and laid her in warm blankets; sinapisms were applied to the feet, and the heat of the apartment was carefully regulated. Probably an effusion had taken place about the base of the brain; for she had an uneasy sensation in the head for a long time. At length, however, she perfectly recovered.

Sometimes the stomach is disturbed in these cases.

A little boy ate some orange, and rich plum cake, and he became remarkably oppressed. He had a stupid expression of countenance, cold extremities, a natural warmth on the trunk, a laborious pulse, and a hurried respiration. He was placed on his mother's knee, and when he was removed vomiting was produced; and in this way the oppression was removed by the removal of the offending matter from the stomach.

Whenever you see an individual labouring under the intermediate form of common congestive fever, always inquire whether he had taken any indigestible food before the attack; and if any of the offending

matter remain in the stomach it should be removed. For this purpose, therefore, a mild emetic will be best, followed by a little brandy. In some cases connected with the stomach emetics will do good whether in the extreme or intermediate form of congestive fever. I have known a person who was apparently dying, cured by vomiting. Mere flatulence will sometimes oppress the heart's action.

If the pulse be so feeble that you are afraid of the shock of an emetic give the patient brandy; or if convulsions occur in children you may use opium, in the form of a suppository.

In the intermediate form of common congestive fever purgative medicines are often very beneficial, especially those which operate on the liver; and therefore calomel is the best.

THE MILD FORM

is distinguishable from the extreme and intermediate forms of common congestive fever, and is by far the most common form. It is denoted by the following symptoms:—

1. By lassitude and languor.
2. By chilliness and paleness of the surface.
3. By a more feeble pulse than natural.
4. By aching of the head or back.
5. By more or less prostration of the appetite.

In these cases the patients very often drag themselves about with a pale face, and the other signs I have mentioned, and suppose that they can remove the indisposition by exercise. This is especially the case with men who are engaged in important business. Nothing is more important than to attack any disease at its commencement. If you are called to any patient labouring under the mild form of common congestive fever, never compromise your sense of duty to the wishes of the patient or of his friends; for both the one and the other will sometimes suppose that the affection may be removed by exertion. In these cases a medical man must exercise over his patient a despotism; but he must exercise it mildly. And he should not take upon himself such heavy responsibility if the patient will not take his advice. The truth is, that if patients be allowed to go about in this state they will very often have an attack of the extreme form of common congestive fever, under which they will sink at once; or it may be followed by great excitement and an attack of acute inflammation.

Always, therefore, recommend the following measures to be adopted; namely—rest in bed; a mild emetic; the use of a warm salt water

bath ; a mild aperient; and a bland diet. Small bleeding by leeches is generally beneficial ; but a tepid bath answers a better purpose.

In all these cases a mild dose of calomel is very beneficial. When the body is torpid, with a cool skin and diminished sensibility, you may often give calomel largely, without producing any effect except purging. If the skin be cool without torpor calomel will produce its specific effects very rapidly.

Never give calomel as a purgative till you know the idiosyncracy of the patient. If you want a common aperient do not run the risk of a violent ptyalism.

One point of very great importance is the chill of the surface. If you investigate the history of examples of acute and of chronic diseases of a serious character, you will find that many of them were preceded by an universal chill of the surface, which chill will very often be found to have continued a great many hours. This takes place in many of the cases of congestive, of simple, and of inflammatory fever, which occur in this country, from the low and variable temperature of our atmosphere. And no rule is more important to the public than that which instructs them to restore the natural heat of the surface as early as possible. I generally mention this to all the families whom I attend. I advise them, if ever they be chilled, to make for the first hot bath they know of, and restore the heat of the surface.

The chill very often continues for many hours before dangerous venous congestion comes on; or before excitement, the consequence of which often is an attack of inflammatory fever, occurs; and, by the use of a hot bath, you may often prevent a great deal of mischief. The temperature of the bath in these cases seldom ought to be less than 100° Fahr. In Paris you may have a hot bath in any house at five minutes' notice. In every well regulated government there ought to be a Minister of Health. There are many things in London the effects of which are very injurious to the public welfare ; and the notorious deficiency of warm baths is one of them. Besides this there are a great many others which I could mention.

I repeat that a hot bath will generally carry off the attack directly; if it should not, emetics will be found exceedingly useful, particularly mild emetics, as a scruple of ipecacuanha powder.

The use of purgatives seems to have induced medical men to neglect emetics in many cases where they would be found very useful. You must not, however, give emetics empirically on the assumption of the case being one of congestive fever, but examine whether there are no marks of inflammation. Emetics may be followed up by purgatives.

Keep the patient in bed surrounded by a temperature of from 60° to 66°, and allow him a bland diet.

Having premised these remarks on the treatment of common congestive fever, I shall say a few words on the

PROGNOSIS OF COMMON CONGESTIVE FEVER.

THE EXTREME FORM.

This is an extremely dangerous affection indeed, but you must take care not to confound with it an ordinary case of mere universally cold skin; which, if it exist without any symptom of local disturbance, is not at all dangerous, provided it be soon removed. But if at the same time some organ be excessively disturbed in its functions, the case is very alarming; and unless you remove the oppression or collapse it is generally fatal.

I have known some cases terminate fatally in one hour, in three hours, in four hours, and very often in twenty-four hours.

If you have produced a state of excitement the patient is generally going on well, if properly managed.

If the congestion continue, and the brain, heart, lungs, and stomach be disturbed, the case will generally terminate fatally.

If the excitement be imperfect, and the case put on the congesto-inflammatory character, it is very serious. If the trunk be hot while the extremities remain cold, with great disturbance of the functions of the brain, of the lungs, and of the liver, the case is mostly very serious.

If the excitement be perfectly developed then the fever is either simple or inflammatory, and the prognosis is to be given accordingly.

The prognosis in the extreme form of common congestive fever is influenced also by the age. It is most dangerous in infants, in old persons, in women after delivery, and in individuals labouring under great mental distress. Middle-aged persons will struggle through it better than the young or old. Congestive fever is more fatal in a cellar than in a garret. This depends on the air the patient breathes.

THE INTERMEDIATE FORM.

This is far less dangerous than the extreme form, and is generally removed by bleeding, if you see the patient early. If you do not see him early he very often sinks into the extreme form; and sometimes the case puts on the character of congesto-inflammatory fever.

THE MILD FORM.

The prognosis in this form is almost invariably favourable if you put the patient to bed early, and provided he be properly managed.

Generally speaking, you must be guided in your prognosis by the increase or the diminution of the local disorder, and of the general disturbance. If they both become diminished then the case becomes more favourable. But if they both continue, and increase, the prognosis is unfavourable. If you observe the remedies succeeding, the prognosis is favourable; but if you find them failing, the prognosis is less favourable.

LECTURE XV.

COMMON SIMPLE FEVER.

SYMPTOMS.—DIAGNOSIS.—TREATMENT.

Common fever is a generic term, which I use to mark generally those effects which proceed from common occasions.

One of these effects, which proceeds from common depressants, I have already considered under the name of common congestive fever. Another, which I call

COMMON SIMPLE FEVER,

will form the subject of this lecture.

In the definition which Dr. Cullen has given of Pyrexia, he has entirely omitted the congestive form of fever; and indeed that form of disorder is entirely unnoticed by all our systematic writers on medicine, for this obvious reason, that they follow Dr. Cullen to the letter. As long as this is the case, we shall have no valuable work on modern medicine. This omission is very serious, for congestive fever is the most important form, as forming an exception to general laws. Cullen has assumed that fever always begins with cold, but we dispute the authority of men: we are not like the members of the profession of the law—we do not suffer ourselves to be guided by ancient laws or mouldy records; from them we appeal to the volume of nature. The word Fever, in most languages, is expressive of increased heat of the skin; but this, as a definition, would be defective, inasmuch as it would exclude the congestive form of fever. But when common depressants are the occasion, congestive fever is always an incipient part, and in some instances the whole, of the fever.

I use the term Congestive Fever to denote the state which exists from the influence of depressants, in which excitement does not take place, but in which the symptoms of congestion remain as an exception to general law of the animal economy. When the excitement is once developed—when it once happens that the skin becomes hotter and the pulse quicker than natural—then the fever is no longer of the congestive kind; but it is necessarily either Simple fever or Inflammatory fever.

The simple form of fever proceeds from three different sorts of common occasions.

1. When it arises from common depressants, it universally has three stages—

1st. A stage of Depression; with a diminution of the heart's action, of the animal heat, and of the muscular power.

2d. A stage of Excitement; with an increase of the heart's action and of the animal heat; and—

3d. A stage of Collapse; in which the heart's action again falls, in which the animal heat again falls to the natural standard, and in which the patient feels universally weak.

A very apt illustration of these successive stages is offered in the affection called ague, which arises, however, from peculiar occasions. Ague has three stages:—

1st. A stage of depression, called the cold stage.

2d. A stage of excitement, called the hot stage; and—

3d. A stage of collapse, called the sweating stage.

Now what takes place in the course of a few hours in ague, takes place in common simple or in common inflammatory fever in a few days.

1st. The cold stage, or stage of depression, is generally short.

2d. The stage of excitement is of various periods of duration, generally a few days; and—

3d. The stage of collapse follows.

2. When the fever (in the popular acceptation of the term) arises from common stimulants, it has not three stages. Cullen states that fever is always preceded by a cold stage. He makes this assertion roundly; but this is not really the fact. Suppose fever (for the sake of argument) to consist of a hot skin and a quick pulse, I repeat, that it has not always three stages; for if it arise from stimulants, the heart's action and the animal heat are increased directly; and—

3. When common simple fever arises from irritants the same is very commonly the case. A glass of brandy, for instance, given to a weak convalescent will often irritate the mucous membrane of the stomach, and produce fever; and in this case the fever will commence directly with a hot stage.

Suppose then that what I call common simple fever be established from the influence either of depressants, of stimulants, or of irritants; what are the indications of it?

SYMPTOMS OF COMMON SIMPLE FEVER.

They are a combination of the following seven circumstances :—

1. The heat of the skin is somewhat higher than natural.

You almost invariably find that the heat is highest in the evening and through the night, and is rather less in the morning, at which time the pulse also falls. The heat of the surface, however, is more or less higher than natural throughout the whole twenty-four hours. You will find it at any part of the day somewhat above 98°, if the temperature be properly measured by means of a thermometer placed under the axilla. The skin also is drier than natural.

2. The pulse is somewhat quicker than natural.

The pulse varies with the age of the individual, and you must take into account the standard of the pulse, which in a healthy adult may be stated to be seventy-two pulsations in a minute, while in common simple fever the number of pulsations in a minute will range from ninety-six to one hundred and ten, increasing towards night and decreasing towards morning. This is the case also in health, and appears to depend upon a law of nature, which law is more observable in the febrile state than in health.

3. Some thirst.

4. Some fur upon the tongue.

This constantly attends common simple fever.

5. Some loss of appetite.

This almost invariably attends.

6. Some change in the stools, in the urine, or in both.

The stools are unnatural either in colour or smell, and the same is correct with regard to the urine.

7. Some languor of body and lassitude of mind.

These symptoms are almost invariably combined in common simple fever, which is generally a very mild form of fever.

DIAGNOSIS OF COMMON SIMPLE FEVER.

This is remarkably easy.

Take the most perfect form of common Congestive fever, and you will recollect that it consists of a diminution of the heart's action as to its force, and a diminution of the animal heat as to its degree. The pulse is less strong and the heat is less high than natural.

In common Simple fever, on the contrary, the degree of the animal heat is above the natural standard, and the force and frequency of the heart's action, and consequently of the pulse, are greater than natural.

Again, you may distinguish common simple fever from common inflammatory fever by the following circumstances :—

In common Simple fever there is no sign of either an internal or external inflammation. Sit down, and examine the patient attentively. Consider the seats and healthy functions of the various organs : begin with the head and go on to every part of the body, and if the fever be simple you will find no marks of inflammation.

In common inflammatory fever, on the other hand, there are signs of an internal or of an external inflammation.

What I call Common Simple fever is synonymous with what the older authors called Idiopathic fever. They were aware from observation that fever frequently begun, and even went on without inflammation; and this they called idiopathic fever, presuming it to be a peculiar effect, independent of any local disorder. This presumption, though true in some examples of fever, especially in the beginning, will, if generalized, lead us to unsatisfactory results; for in the progress of the fever inflammation may occur and change the character of the case. No doubt many cases of what the older authors called idiopathic fever were in reality cases of inflammatory fever. They were ignorant of the symptoms of inflammation; and, therefore, the mortality arising from the use of the term idiopathic has been very great. It is one of the *asyla ignorantiæ* which learned men make use of to conceal their ignorance.

There is a great deal of ignorance in learning; and there really is no ignorance so deplorable. There is a mighty difference between learning and wisdom. The physicians of Sydenham's day were learned men; they could speak and write Latin fluently; but Sydenham could do neither. He attended, not to words, but to things—to the phenomena of nature; and despised and neglected the learning which was so much the pride of his cotemporaries. I have never met with a learned physician—I mean a man of black-letter learning —who did study the phenomena of nature. There may be such a person. I do not mean to deny the existence of such an one, but merely intend to say that I have never met with such an one either in public or in private. Physicians very often are what Milton calls

"Deep versed in books, but shallow in themselves."

In the writings of the older authors is displayed nothing but an external pathology ; they were ignorant of any kind of correct information about the conditions or internal pathology of diseases; and,

therefore, it is perfectly fruitless to hold them up either as pathologists or as practitioners.

Another term which is often used is Symptomatic fever. This corresponds with what I call Inflammatory fever. I use the term inflammatory fever to designate the connexion of fever with inflammation. Where fever and inflammation exist together, and arise from a common occasion, then I call it Common Inflammatory fever. You will see that the older authors, in the term sympathetic fever, have an assumption which in the term common inflammatory fever I entirely exclude. They, namely, assume that the inflammation is the cause of the fever; but I merely notice the fact of the combination. The truth is, that inflammation is sometimes a cause and sometimes a consequence of fever.

Some men are very unwilling to give up their favourite terms; but I shall show you that the term sympathetic fever, including, as it does, an assumption, is incorrect. I care not on what authority such terms rest; for I protest against systems, but not against men. Each man has his failings, and if we carefully examine ourselves we shall find sufficient cause for self-humiliation. Bacon has said, that men are not wise by years, but by hours. You should always treat the prejudices of the old with respect, and with kindness—but with firmness; and if you can you should reason with them. Mr. Abernethy is a man of great talents, and I respect him because he has improved his profession; but it is my duty to protest against the term which he uses, "disorder of the digestive organs." Dr. Hamilton, of Edinburgh, forms a noble example of a very old man laying aside his prejudices, and he has thrown more light on diseases than any other man.

But in common simple fever there is no inflammation whatever; and this opinion I am bound to maintain from minute investigation, which has plainly demonstrated that the distinction between common simple fever and common inflammatory fever is legitimately deducible from facts.

In one respect common Simple fever differs remarkably from common inflammatory fever—in its pathology. If you sit down and examine the physiology of each organ of the body, and contrast and compare this with the existing state of the functions of these organs, you will not in common simple fever detect any inflammation in any external or any internal organ, and yet the skin is hotter and the pulse is quicker than natural.

As there is no word in our language to distinguish this state from that of inflammation I designate it by the term

GENERAL SIMPLE EXCITEMENT.

There are many facts which show that such a state does exist independently of inflammation.

You may produce such a state in a few minutes by exercise, as by running, and especially in a warm day. The pulse then becomes quicker and the skin becomes hotter than natural; but still there is no inflammation.

If an individual be exposed to a high temperature the skin becomes hotter and the pulse quicker than natural; but still there is no inflammation.

Let an individual be roused by mental emotion, as by anger, and the skin becomes hotter and the pulse becomes quicker than natural; the face becomes flushed, and the eyes brighter than natural; but still there is no inflammation.

So also if an individual take a full meal of food, and three or four glasses of wine, the pulse will become quick and strong; the heat at the same time is high, and the face flushed; but still there is no inflammation.

Again, let an individual be marked in the advanced stage of pregnancy: there is frequently no inflammation, but the heat is high on the surface, the pulse is quick, and the blood drawn from such a female is loaded with the buffy coat. This is especially the case in the last month of pregnancy.

Again, a similar state may be produced by blood-letting. If you take an individual in health and bleed him to-day, to-morrow, and the next day, you will find that after each abstraction of blood the pulse will become quicker, and ultimately fever will be established, but often without any inflammation.

Another fact which demonstrates this state to exist is drawn from inflammation itself. An individual has inflammation in the brain, in the lungs, or in the bowels: you bleed him, purge him, and starve him, and all the signs of inflammation abate; yet it often happens that for two or three days the skin remains hotter and the pulse remains quicker than natural, without any disturbance whatever of the functions of any organ. This fact I consider conclusive as a proof of the existence of such a state as that which I call general simple excitement, without any, either internal or external, inflammation.

There is even a condition of the vascular system locally—differing from that of General simple excitement. It is what I call

LOCAL SIMPLE EXCITEMENT;

in which we have evidence of an accumulation of blood in certain organs, not amounting to inflammation. It is readily distinguished from inflammation, being merely an increase of the redness and sensibility of the part.

Blushing is an instance of local simple excitement. The cheek will become at first as red as a rose, and then in a short time as pale as marble; and yet when the face is thus suffused no one will say that it is inflamed.

If heat be applied to the back of the hand it will redden it, and yet within a certain point there will be no inflammation.

If you apply friction to the skin you will produce the same condition; but it is not inflammation, although it certainly may be carried on to such an extent as to produce inflammation.

Rubefacients applied to the skin of any part will produce the same effects without any inflammation.

In mental emotion too, as in grief, you will see the eye suffused with tears, and those vessels of the conjunctiva, which naturally admitted only a colourless fluid, allowing red blood to pass through them. This is a state of increased sensibility and redness; but it is temporary.

In scarlet fever there is a blush of redness on the eye; but the symptoms of inflammation are not there.

In the mouth, on the tongue, and about the salivary glands, during mastication, there is an increased quantity of blood, and yet there is no inflammation.

From some experiments which have been made, the same seems to take place in the stomach during the process of digestion, and even in the colon when it is overcharged with fæces.

What obtains in these examples may perhaps be applied to every part of the body. Probably each organ has a certain supply of nervous influence which affects the quantity of blood distributed to it.

If the heat of the head become higher than natural there is an increased flow of blood towards it; and this is either connected with an irregularity of the distribution of the nervous influence or of the heat—perhaps the former.

Three very remarkable circumstances occur in common simple fever, with respect to—

1. The animal heat, which is increased on the surface.
2. The heart's action and blood.

The action of the heart is increased; and, by consequence, the rapidity of the circulation is increased; but the distribution of the blood seems so equable, that no organ can be said to be inflamed;—and with respect to—

3. The change in the secretions.

This is especially seen in the change of the secretions of the tongue, of the bowels, and of the kidneys.

In simple fever there is increased rapidity of circulation over the whole body.

A boy had a hot skin, and a pulse the quickest I ever felt in simple fever—beating one hundred and forty-eight times in a minute. I staid with him an hour, and examined him carefully, but could not detect any trace of inflammation. I knew this pulse, if it went on, would produce inflammation. I therefore bled him, and the blood was florid like arterial blood. Was this colour the cause or the consequence of the fever?

This common simple fever certainly has a sort of approximation to common inflammatory fever. This is so true, that though in some instances a case begins, goes on, and terminates as simple fever, yet, in other instances, in its progress or towards its termination the case becomes one of inflammatory fever. Therefore, though a fever be simple in its commencement, you are not to presume that it will continue so in its progress. I hardly ever see a case of fever which remains the same during twenty-four hours. The change may be slight or trifling, but sometimes it is important. The fever may change from the simple to the inflammatory fever. However this may be, I have been in the habit of daily taking notes of cases of fever for twenty years, and I repeat, that I have hardly ever found a fever continue precisely the same during twenty-four hours.

Common simple fever can only exist in a sound subject, whose organs are nicely balanced, and in whom there is no faulty structure locally.

It therefore most frequently occurs in sound children; in adults the fever is mostly inflammatory.

TREATMENT OF COMMON SIMPLE FEVER.

The treatment of common simple fever is very complicated according to our systems of medicine; but I shall display it to you in a different view. If you understand the nature of a disease, the treatment will always be simple; but if you be content to follow systems because they are old, your treatment of diseases must necessarily be complicated.

There are three leading indications :—

First—to reduce the animal heat to the natural standard;

Secondly—to reduce the heart's action to the natural standard; and—

Thirdly—to restore the secretions to their natural characters. There is, invariably, a disturbance in the balance of the secretions. In one organ the secretion is diminished—is less than in health; while in another organ the secretion is increased beyond the healthy standard. This disturbance in the balance of the secretions takes place especially between the skin and the internal mucous membranes. It is extremely common that there is an increased secretion from the mucous membrane of the intestines, but a diminished secretion from the kidneys; and towards the termination of the fever the natural balance becomes restored.

Mild congestive fever is sometimes permanent, but sometimes it is merely a stage of common simple fever.

In almost all cases where common simple fever begins by a cold stage, you must recollect the treatment of mild congestive fever, which I mentioned in my last lecture. It will be necessary to prescribe the use of a water bath of the temperature of about 100° Fahr., to exhibit a mild emetic, and to direct the patient to rest in bed, using a bland diet, and taking mild aperients.

Suppose you are called to a patient in whom a state of common simple fever has been developed by the treatment just mentioned, or in whom a state of common simple fever has risen directly from the influence of stimulants, or irritants; what is to be done? I repeat that you have the following distinct objects in view:—to reduce the heart's action; to reduce the animal heat; and to restore the secretions.

There are certain means by which you may accomplish these objects, and these means are of three kinds :—

1. Regiminal; 2. Mental; and 3. Medical.

These means must be combined; and I put the medical means last, because the medical treatment really is secondary compared with the other means. The following things are necessary with respect to—

1. *THE REGIMINAL TREATMENT.*

1st. Rest in bed.

This diminishes the action of the heart, both in force and frequency; and diminishes also the labour of respiration. It tends to act equably on the skin; it tends to maintain the strength; and has all the good

effects, without any of the bad effects, of bleeding. If you allow a patient whose pulse is one hundred and twenty to go about, it will soon rise to one hundred and sixty.

Another extremely important point is—

2d. The temperature of the apartment, &c.

The temperature of the room, and both the kind and quality of the clothing, require strict attention. In short, you must avoid all those means which tend to raise the animal heat; for in proportion as the animal heat is diminished or increased, so will the heart's action also be diminished or increased. The temperature of the apartment should be perhaps about 60°, seldom below 56°. The patient should be lightly covered. If he be accustomed to have his throat covered in health, it should be covered now; and the heat of the surface should be watched, especially towards night. Nurses in winter are generally more attentive to their own comfort than to the welfare of the patient; and often by making up a large fire at night convert a simple into an inflammatory fever.

In all cases of fever there are two things with regard to the nurse which deserve attention. *First*, you should attend to the mind,—to the intellectual powers of the nurse, and ascertain how far they extend; and *secondly*, you should ascertain the moral character of the nurse, which should be very high. Nurses should be more liberally remunerated than they generally are. You should let the patient have a nurse of common sense, and of great integrity. You should also let her know that she owes you the most perfect obedience. The life of your patient, and your own reputation, will often depend entirely upon the character and conduct of nurses. It is a remarkable truth, that the American Indians select the most respectable women in their societies as nurses, and thus they prove that they properly estimate the importance of the office.

Another material point is—

3. The diet.

Analogy would lead us to infer, that as the patient under common simple fever feels and appears weak; and that as the weakness which is consequent upon fatigue is removed by cordials and by eating——that, therefore, the exhibition of solid food and of cordials would be proper in fever. Try the experiment, however: it has been tried thousands and tens of thousands of times; but experience has proved that the effect is contrary to that which analogy would lead us to expect.

The way to support the strength in these cases is to adopt certain

negative measures, by avoiding all demands upon the strength. The fact is, that under fever the patient feeds upon himself; he lives upon his own flesh and blood; he lives, in short, by a species of cannibalism.

Whenever fever exists,—whenever the heat of the surface and the action of the heart are above the natural standard, adhere to a diet of either arrow-root, gruel, barley-water, or whey. You might, perhaps, think the exhibition of broths or of solids of no consequence in these cases; but if you give the patient broths or solid food you will almost invariably convert it into an inflammatory fever. They will irritate the stomach, or produce an effect at once upon the heart's action so as to endanger the production of inflammatory fever. Food is fuel to fever: choose, therefore, a bland diet of some kind, and give precise instructions as to the quantity, which may be a small cupful morning, noon, and evening. Nurses will frequently say, that a patient's rule as to diet in fever should be "little and often;" and they will give the patient gruel every half-hour throughout the day and night, till he is blown up like a bladder. This irritates the mucous membranes of the stomach, and sometimes produces vomiting; or passing into the intestines, corrupts and putrefies there, and irritates the mucous membranes of the bowels. Three small cupfuls of either of the kinds which I have mentioned are quite sufficient for a day. In children you may allow an additional cupful in the night.

4th. The drinks are very important.

Water is the best kind of drink in fever; and if there be no irritation in the mucous membranes of the alimentary canal, you may let the patient take for common drink a slight infusion of lemon juice in water, in the proportion of a spoonful of juice to a pint of water. Or a little juice of orange, of apple, of pear, grapes, peach, or of other fruits, as raspberries, strawberries, currants, gooseberries, or jam may be given, diluted with water. The juice of either of these fruits should be squeezed through fine muslin. It should always be expressed; for if you allow the patient to eat these fruits, they are very apt to do a great deal of mischief, and convert the simple into the inflammatory form of fever.

I am perfectly confident that I lost many patients in the early part of my practice from this cause; and now, a week scarcely ever passes in which I do not see the life of some patient sacrificed to an indiscriminate indulgence in the use of fruits.

When you go into a patient's room, therefore, you must use your eyes, and if you see things lying about which you have ordered the patient not to take, you may generally be quite sure that something

is wrong in this respect. It is astonishing what irritation these things frequently occasion. Examine, and you will see what a quantity of indigestible matter these fruits contain, except perhaps peaches and grapes. But, as a general rule, it is best not to allow the patient fruits.

When you have prescribed the proper diet for the patient, always take care to add that the patient is to have nothing else whatever.

5th. Quiet.

Not only the whole house should be kept quiet, but more especially the apartment of the patient. Hence you must regulate the conduct of the attendants; and you must also regulate your own conduct. Light may be freely admitted in common simple fever. There is something gloomy in the character of the English, and this often leads them to darken the apartments of the sick; but if the head be free, there will be no occasion in these cases to exclude the light, and make the apartment so gloomy.

6th. Ventilation.

This also is of great consequence. You may always with safety admit fresh air into a room on one side; avoiding, however, cross currents. If you have a fire—and you generally should have a small one, otherwise the room cannot be properly ventilated—then it will be especially proper also to keep a thermometer in the room, and to attend to the temperature.

7th. Cleanliness.

Never allow the stools or the urine to remain in the room after they are evacuated; because they taint the air of the apartment, and tend to sink the strength of the patient. Always have the stools passed in a little water, and removed directly into another place if you wish to examine them. The linen should be changed, the feet washed, and the room should be cleaned if there be any dirty spots upon the floor. Nurses will often clean the room by slopping over it a large quantity of water, and then imperfectly drying it; so that the patient is often injured by the damp room, especially on getting up to a night-chair. The best way of cleansing the floor is to use hot water, and then to dry it at once. Never allow much water to be used for this purpose.

When the patient gets up, you should give strict directions that he be not exposed to a current of air.

2. *THE MENTAL TREATMENT.*

It is of very great consequence to study the minds of individuals,

and it is especially important under disease; because you may draw inferences from a knowledge of this kind, and act accordingly. The mental treatment clearly admits of precise rules, and we must make our own observations on the subject of each case as carefully as possible.

1st. Remove, if possible, every anxiety about the health.

If you confidently assure the patient that he will get well, it will often give him very great relief.

I knew an individual who was always counting his pulse: he was very irritable, and finding his pulse above eighty, he was very much alarmed. The medical practitioner made him promise not to count his pulse, and then it was soon below eighty; and he did perfectly well.

Be careful to direct the attendants not to do too much; for the patient is very liable to be irritated by the *nimia diligentia* of the friends or nurse. The affection of the friends prompts them to be perpetually doing something for the patient, by which they keep up in him an incessant state of mental and bodily irritation day and night.

2d. Avoid all occasions likely to disturb the mind.

Avoid all business, the writing or reading of letters, and the making of wills, unless necessary. You cannot control the mind, it is true, but you may very often avoid the occasions likely to irritate the mind; and this should, if possible, be done.

3d. Be mindful of your looks and your language.

There is a language in the looks, by which the emotions of the mind are very often expressed so as to be detected. No doubt the dress and the appearance of the old physicians must have done great mischief; no doubt, by means of the gold-headed cane, the immense wig, the grave and solemn countenance, they sent a great many patients to their graves. Their fanciful dresses and solemn faces, as displayed in their portraits, must have been highly injurious, from their influence on the minds of patients. One of the improvements with respect to physicians certainly is the adoption of the modern fashions of dress; for one had far better be dressed like a dandy than be disfigured like the old doctors.

When a patient is under your care there is naturally one exclusive feeling with respect to himself; and by removing any doubt from his mind with regard to the certainty of his recovery, you will often render him very comfortable; especially if you do so cheerfully, and with confident assurance.

4th. Be punctual in the performance of your promises.

Perhaps there is no higher pleasure which a patient experiences than the expected visit of his medical man. If you do not arrive at the time when he expects you, the pleasure is converted into disappointment and pain, and the consequence often is a great increase of the fever. You will see, therefore, the necessity of punctuality. At the same time, in slight cases do not make too many visits; otherwise, the patient will be liable to think himself dangerously ill, without any other reason than the frequency of your visits to him.

With respect to your visit, there are two rules which I would advise you to observe. The *first* is, never to visit a patient too early in the morning in slight cases. Many patients go to sleep towards this time, and by breaking in upon the sleep you will do great mischief. The French commit a very serious error in their hospitals with regard to this point. The *second* rule is never to visit a patient too late at night in slight cases; otherwise, you will probably so excite his mind that he will pass a restless night.

5th. Be precise in the manner of prescribing medicines.

Be precise as to the time of repeating medicines: do not prescribe it to be taken "every four or six hours," but either "every four hours," or "every six hours." Be precise as to the quantity of medicine for each dose: do not order "two or three table-spoonfuls" for a dose, but either "two table-spoonfuls," or "three table-spoonfuls." You should be precise in these particulars, for the patient will then attach far more importance to the medicine than if it were prescribed carelessly.

6th. Say something consoling before you leave the patient.

Leave him with a cheerful face and with a cordial grasp of the hand, assuring him that he is going on well. You should act as if you were the friend as well as physician of the sick. Celsus very sensibly observes, that if he knew two physicians of equal intelligence, he would choose him who was his friend, who would inspire him with more confidence, and would give him more consolation, than a stranger.

I pass on to—

3. *THE MEDICAL TREATMENT.*

This is very soon and very briefly told. In the first stage, when the patient is pale, and complains of languor and lassitude, with a feeble pulse and cool skin, mild emetics, if there be no inflammation

of the mucous membrane of the abdominal viscera, are exceedingly useful, and often cut short the fever. They have been far too much neglected, in cases of incipient fever, since the general introduction of purgative medicines. Nauseants are often very beneficial in incipient fever.

When excitement is fully developed you may use—

1st. Aperient medicines.

These are necessary; and, with regard to them, there are three points to be considered:—the kind, the quantity, and the time of repetition.

As to the kind of aperients; purgatives and laxatives only should be given either to children or adults; cathartics are very dangerous, producing inflammation of the bowels, which consequence I have frequently seen arise from calomel and colocynth, with infusion of senna, sulphate of magnesia, and tartrate of antimony.

Among the best aperients in common simple fever are—submuriate of mercury (calomel,) rhubarb, cold-drawn castor oil, infusion of senna, sulphate of magnesia, and tartrate of soda; and, generally speaking, about three grains of calomel are sufficient, combined with eight grains of powdered rhubarb, and followed up by half an ounce of cold-drawn castor oil. If calomel do not agree with the patient; if it produce bloody stools, which is sometimes the case, leave it off. If the castor oil produce sickness you may omit it, and substitute a draught of Epsom salts and infusion of senna; but if the castor oil only produce nausea, this is desirble, and will do no harm. Or, instead of these, you may give the following draught:—

Magnesiæ Sulphatis drachmam,
Acaciæ pulveris grana octo,
Infusi Rosæ unciam cum semisse. Misce.

As to the frequency of repetition, you hardly ever need give more than two doses in the day; sometimes one will be sufficient. Do not prescribe purgative medicines to be taken every four or six hours, as many physicians do; for the consequence is, that a constant irritation is kept up in the bowels. You may give calomel and rhubarb at night, and the castor oil in the morning; and do not tease and worry the patient by a frequent repetition of the medicine. If you prescribe senna with sulphate of magnesia, you may use the following draught:—

Magnesiæ Sulphatis,
Mannæ, *singulorum*, drachmam,
Infusi Sennæ compositi, unciam. Misce.

This is generally all that is necessary with regard to aperients.

Cover the patient lightly, and keep him on a spare diet: by these means moderate doses of purgative medicine will operate; but when the skin is very hot scarcely any purgative will operate at all, except in very large doses. If the patient be a child above two or three years of age, you may give it three grains of calomel, as I have just mentioned. You may go on thus for two or three days, and then a grain and a half of calomel will be sufficient. You should try to procure by these means about two, three, or four stools in the twenty-four hours. As the pulse and the heat of the surface fail, you must withdraw the calomel: for if you continue then to administer calomel, you will most likely produce ptyalism, which is not at all necessary, and is sometimes a very great evil. You must take care to have the medicines good, for it makes a great difference in their effect. You should also be especially careful, in compounding the medicines, to avoid mistakes. I believe the reputation of a general practitioner constantly depends on the care with which medicines are compounded; and so also does very often that of a physician.

These are all the medicines necessary for the body of the patient, but you must also prescribe for the mind. People have been so long accustomed to the hocus pocus of physic, that if you only give them what medicine is necessary they will think you know nothing about their complaints.

2d. Febrifuge medicines.

With regard to febrifuge mixtures, I have no faith in them. Saline and antimonial medicines are generally given; and for what reason? I would have you ask yourself always, before prescribing any medicine, Why do I prescribe this? A medical man should always have a reason for prescribing. If you cannot satisfy yourself as to the real state of the case, you had better do nothing; it is better to stand still till the light returns, than to walk about in a dangerous place in the dark. I believe the reason why salines and antimonials are prescribed in fever is, that it has been the custom to do so from time immemorial. If our grandfathers had shaved themselves with wooden razors, we ought, on this principle, to do the same. A great many abuses continue to be sanctioned from a deference to custom; we must do, forsooth, in Rome as the Romans do. But the proper plan is, that we must use our reason; we must employ our senses, and find out whether the use of these medicines in fever deserves to be continued. I have seen many cases of inflammation of the stomach and intestines distinctly arising from them, and they generally do a great

deal of mischief. Sometimes a small quantity of the liquor ammoniæ acetatis, in almond emulsion, or a few drops of the vinum antimonii tartarizati, will act on the skin and kidneys; but these are extremely uncertain. Or you may give carbonate of potass and lemon-juice, perfectly saturated and mixed with water; but, generally speaking, no fever mixture is so good as pure water tinged with a little burnt sugar or with either of the celebrated syrups of the Pharmacopœia. This mixture is to be given to keep the mind of the patient tranquil, for which purpose you may conscientiously prescribe a placebo. I knew a lady who received a parcel containing mixtures, draughts, and boluses, all for the same complaint. Her husband said to the boy who brought them, "I dare say this is all very right; but I should like particularly to know on which part of this parcel your master depends for the removal of the complaint." And any one might ask the same question.

3d. Tepid ablutions.

As to the skin, it is important that it should be attended to, and therefore tepid ablutions are of consequence. In the first onset of the fever, if you see the patient early, you may very often use a tepid bath with advantage, especially when the skin is husky. Immerse the patient for a quarter of an hour or twenty minutes, so as to soak the cuticle; then soap the whole surface, and, having washed the soap off, dry the skin thoroughly. In the progress of the fever, the use of a water-bath would fatigue the patient; and, by exhausting the strength, would often do great mischief. But if the surface of the body be hotter than natural, sponge it, remembering to wipe the parts very dry. You should avoid a chill after the use of the bath, and nurse the patient's strength as much as possible.

The abstraction of blood generally is not necessary, unless inflammation be supervening or threatened; and, if so, you must use general or local bleeding.

When the patient is convalescent there is an appetite, and a disposition to sleep; you must not, however, allow him to gorge himself, but let him pass gradually from a low to a more nourishing diet.

LECTURE XVI.

COMMON INFLAMMATORY FEVER.

RELATION OF INFLAMMATION TO FEVER.—PHENOMENA OF INFLAMMATION.

Common Inflammatory Fever comprehends a much more extensive range of conditions than simple fever. It arises sometimes from depression, and has then three stages; sometimes directly from the influence of stimulants; and sometimes from the influence of irritants. It is distinguished by a consentaneous increase of the heart's action and of the animal heat, with evidence of some external or internal inflammation. And if twenty different persons were exposed to the same common remote occasion you would probably find that in half the number the inflammation was seated in different parts;—in one in the pleura; in another in the mucous membrane of the bronchia; in another in the serous—in another in the mucous—membrane of the intestines; in another in the cellular connecting membrane of the lungs; in another in the liver; in another in the skin, producing that form of inflammation which is commonly called erysipelas. Now how does this happen? The reason is, that these individuals had different faulty structures, and the inflammation fell on the weak organ. These persons had different inherent or acquired predispositions, the nature of which I have before explained.

But an interesting question arises in reference to the connexion between inflammation and fever in this combination.

When inflammation arises from depression, is it the cause or the effect of the fever?

The idea which we attach to a cause is, that it is antecedent to the effect. And the idea we have of an effect is, that it is a consequence and follows the application of a cause.

When fever arises from depression, there is, first, a cold stage, with a condition almost directly opposite to the state of inflammation. The next stage is one of excitement; and thus inflammation arises as the effect, and not as the cause, of the fever.

When inflammation arises from stimulants, is the inflammation

the cause or the effect of the fever?—It is here clearly the effect of the fever.

When inflammation arises from irritants, is it a cause or an effect of the fever?—If the inflammation be produced directly by an irritant, as by the application of a blister, then clearly the fever is the effect of the inflammation; for the inflammation arises first. But suppose the impression produced by the application of an irritant to be local simple excitement, then the inflammation follows the fever, and is secondary to it; and here it may be said that the inflammation is the effect of the fever.

It may happen that a local irritation and a general shock may exist at the same time. An individual, for example, falls from a ladder and fractures his leg. When you are called to him you find that his surface is universally cold and his pulse feeble; and withal he has a compound fracture of the leg. Now inflammatory fever generally arises from such an accident; and then is the inflammation a cause or an effect of the fever?—The fever in this case arises in two ways:—

First: The fever arises from the shock which the patient has sustained; and,

Secondly: It arises from the local injury which he has sustained.

And, in consequence of the fever, inflammation occurs in the seat of the injury, because that part is powerfully predisposed; upon the principle that the weakest goes to the wall. This too is a palpable proof of predisposition.

I have the records of three or four hundred cases in which inflammation was the effect of local irritation.

When inflammatory fever arises from interruptants the inflammation generally precedes the fever, and may be said to be the cause of the fever.

Cullen has made all the Phlegmasiæ symptomatic of inflammation; and many modern conjectures are afloat in the medical world, which take for granted that inflammation is invariably the cause of fever; but this is not the fact.

A modern writer has complained that the ancients have stolen all our pretty thoughts; and, if we look in Celsus, we shall find that it was laid down by the ancients that inflammation is the consequence and not the cause of fever.

Some practitioners assume that inflammation of the brain, and others that inflammation of the mucous membranes, is the cause of fever.

If I find it set down that inflammation of the brain is the cause of

fever, how am I to ascertain whether it be true?—By appealing to nature, the simple test of all opinions. Examine cases of fever, and in many examples you find no symptom of such inflammation during life, and no appearance of such inflammation on dissection after death. It does occasionally happen, but not constantly; and therefore this doctrine is unfounded.

I find another author who sets down that inflammation of the mucous membranes is always the cause of fever; and this opinion I prove to be true or false in the same way. There are many cases of fever in which there is no symptom of such inflammation during life, nor any appearance of it after death; and this hypothesis therefore is false.

You must examine with your own eyes, and touch with your own hands. Be perfectly independent; and only take up the opinions of any individual, especially my opinions, as materials for consideration, and you will be far more successful than you otherwise would in drawing correct inferences. With respect to physic, all men ought to observe, think, and act for themselves, and I hope you will constantly do so.

THE PHENOMENA OF INFLAMMATION.

The word "inflammation" is an abstract one. We are much in the habit of using abstract terms, and we arrive at their use necessarily through observation and reflection. When we observe any series of phenomena we are led to reflect on them, and we select those which have a peculiar and constant character; and, on the contrary, reject those which have an occasional character.

There are many circumstances mixed up with inflammation, but the following are its most constant characters:—Heat; Redness; Pain; and Swelling. These symptoms have been selected from the phenomena which attend inflammation, and being combined together under that abstract term, have been deemed, by Celsus and all subsequent writers, characteristic of inflammation, and have served to distinguish that condition, or, rather, the phenomena of that condition. Pain, however, is sometimes absent.

Whatever part of the body be inflamed, the immediate seat of the inflammation is in the capillary vessels of the part; which are (with the exception of the absorbents) the minute terminations of the arteries and veins.

But the phenomena of inflammation are so extremely complicated,

that we must not only consider the state of the capillary vessels of the part, but the state of other parts connected with the inflamed part.

1. The capillary vessels then admit red blood.

This is the first and most remarkable circumstance connected with inflammation.

You have an example of this in the conjunctiva, the vessels of which convey in a healthy state a colourless fluid; but when the eye becomes inflamed the vessels of the conjunctiva admit a current of red blood. The capillary vessels are finer than the threads of a silk-worm: is it not then wonderful that a man should live many years without inflammation? Surely we need not be surprised that when the heart's action is excited, obstruction to the circulation arises in some part.

2. The diameter of the capillary vessels is increased.

This is implied in the former condition in fact; but it can also be proved to exist, by examination of the inflamed eye during life, and of other inflamed parts after death; so that in this way you may have ocular demonstration of the fact.

Anatomists are aware that injections will pass more readily after death through parts which have been inflamed than through other similar parts.

If an incision be made in an inflamed part more blood will flow *cæteris paribus* than from a healthy part.

You have also a remarkable proof of this circumstance in the vasa vasorum. In the healthy condition of an artery you see only a white tunic lining it internally; but when an artery has been inflamed you will distinguish on the internal coat, by the naked eye, and more readily with the microscope, the vasa vasorum ramifying and containing red blood. Hunter proved this fact demonstrably by some experiments which he made on the ear of a rabbit, as will be seen by referring to his work on inflammation.

3. The volume of the larger arteries leading to the part is enlarged.

We have an example of this in rheumatism. Suppose the right wrist to be the subject of rheumatism; then on comparing the radial artery of that side with that of the left side, you will find that the volume of the artery leading to the inflamed part is enlarged. The same takes place when the brain is acutely or sub-acutely inflamed; for then the volume of the carotid arteries is enlarged.

4. The volume of the larger veins leading from the part is enlarged.

You may see this in the throat, especially if it be chronically in-

flamed. If you throw a strong light from the sun or from a candle, by means of a mirror, upon an inflamed throat, you will see the enlarged veins ramifying over the surface. You find the same thing also in other parts after death.

Having made these observations on the circumstances connected with inflammation, I shall endeavour to explain some of the phenomena of inflammation, namely, Heat; Redness; Pain; and Swelling.

One of the most remarkable phenomena of inflammation, and one of a constant character, is—

1. *HEAT.*

The heat is remarkably higher than natural: it is to the touch sensibly higher than natural, but less sensibly so to the thermometer than might be imagined. It is difficult to say whether the heat of the blood in an inflamed part is higher than natural; but on some external parts it is relatively higher than upon the surrounding parts. One cause of the equal distribution of blood through the capillary system is the uniformity of the caloric. If the caloric be superabundantly accumulated in any part, the quantity of blood is invariably increased; and if the blood be superabundantly accumulated in quantity in any part, then the quantity of caloric in that part is invariably increased. And if the quantity of caloric be diminished in any part, the quantity of blood is invariably diminished, so that the part becomes paler than natural.

On what does this increased heat depend in inflammation?—We can do little else than record the fact; we do not know the cause. We may say that it proceeds from an irritant applied either externally to the nerves, or internally to the nerves through the blood coming in contact with them; and that is all we know about it. We can, however, record the fact; and the fact leads to important inferences with respect to the explanation of many of the subsequent phenomena of inflammation.

There is a natural relation between the size of the capillary vessels and the atoms of blood, especially the red particles of the blood. This may be beautifully seen in the web of a frog's foot. When this relation is disturbed it invariably happens that the capillary system is disturbed, and then ultimately the whole system. This relation depends probably on two conditions;—partly on the elasticity of the vessels, and partly on the contractility of the vessels, especially the capillary vessels. The Elasticity of the vessels is a property which

remains in them not only during life, but after death; but the Contractility of the vessels remains only during life. The Contractility, Tonicity, or Irritability of the vessels, is the power which the vessels have of adapting themselves to the quantity of blood circulating through them. The probability is, that this property is sometimes lost entirely in fever.

The contractility of the veins and arteries is very evident. We observe the difference in summer and winter. In summer the superficial veins are distended with blood; in winter they are much more contracted; and in both cases the vessels perfectly accommodate themselves to their contents.

Again: take an universally plethoric individual, and you will observe that his arteries are so distended with blood, that they seem about to burst. Abstract blood from this individual, and then you will observe that the artery becomes comparatively a small thread.

Again: if you apply a small quantity of ammonia to an artery, it contracts exceedingly; but, on the contrary, you will find that if you apply a small quantity of common salt to an artery it dilates.

Without these combined powers or properties in the vessels, namely, elasticity and contractility, the probability is that the circulation could not be carried on.

2. *REDNESS.*

We can account for the redness in inflammation satisfactorily. No doubt, in inflammation the relation which naturally subsists between the size of the capillary vessels and that of the atoms of blood, is lost. Caloric expands all bodies—it expands fluids; it necessarily then expands the blood; and then, the blood expanding the vessels, they admit the red particles, or larger atoms of the blood than they previously contained.

The larger arteries also which lead to the inflamed part are increased in volume; and how is this to be accounted for? The increase of heat about the part will expand the blood, and thus increase the caliber of the vessels. For example, when the left hand is inflamed there is a considerable increase of heat about the hand, and partly up the fore arm; and hence the volume of the radial artery is increased. So, also, when the brain is inflamed, not only the head, but also the neck, is hotter than natural, and the volume of the carotid arteries is thence increased.

Probably another reason is a resistance or interruption to the passage of the blood through the capillary vessels of the inflamed part;

the consequence of which would be an accumulation of blood in the artery leading to the inflamed part.

We can produce all the symptoms of inflammation by interrupting the circulation, which proves that interruption of the circulation is the cause of inflammation. Observe the phenomena of strangulated hernia, which is, in effect, a ligature round the gut interrupting the circulation.

We can, at pleasure, increase the volume of an artery by increasing the heat of a part. For instance,—cover one arm of a patient under scarlet-fever for a quarter of an hour, so as to keep it warm, and expose the other for the same time. On comparing the radial artery in the two arms, you will find that the artery is more expanded in that arm which was kept warm than in that which was left naked. Measure, however, the number of pulsations in each radial artery, and you will never find it different: there is no increase in rapidity of circulation in either hand.

So it is, in all probability, from inflammation, that the volume of the arteries is increased principally from this cause, and partly from a resistance to the current of blood.

The throbbing which accompanies inflammation probably is the result of the interruption of the flow of blood through the capillary vessels of the inflamed parts. We can produce throbbing instantly by clasping the hands and fingers together, so as to interrupt the circulation through the digital arteries. We can also produce the same phenomenon by pressing the tips of the fingers together, because we then interrupt the passage of blood through the capillary vessels of those parts.

Many individuals say that the throbbing of an inflamed part is the result of what they call increased action of the arteries, from the arteries contracting and dilating in an inflamed part more powerfully than other arteries; but they forget the law of reaction. It is a law in mechanics, that action and reaction are equal, but in opposite directions. The recoil or reaction is equal to the action; so that if one portion of an artery were to contract more forcibly than another, the blood would still be driven with equal force through all parts. But it is merely assumed that contraction occurs. I have seen the carotid artery of a horse laid bare for inches, and I have seen the radial artery of a man laid bare, without being able to observe any contraction or dilatation of the artery. The volume only is increased, and not the contraction. The increased volume of the larger veins leading from the inflamed part, in all probability, depends,—*first*, upon the

increased heat; and, *secondly*, upon the diminished contractility of the veins.

Increased action is a term sometimes applied to inflammation.

A distinguished physician, Dr. Philip, has recently published a paper, in which he thinks he has proved that the vascular system has an action independent of that of the heart; but my opinion is, that his experiments do not prove this, and that the arteries have no contracting power independent of the heart. Dr. Philip says that the circulation is decreased, and that the blood flows languidly through an inflamed part. Dr. Thompson, on the contrary, says that sometimes it flows more rapidly, and sometimes more slowly. Both these gentlemen appear to be accurate experimentalists, and yet their opinions on this snbject do not agree. Sir Isaac Newton being once complimented upon his discoveries in the physical world, said that he appeared to himself to be like a man who had been amusing himself with picking up pebbles on the sea-shore, and had been fortunate in finding a few curious ones, while the vast sea of truth lay open before him. Such a reflection we may, with deep humility, apply to ourselves.

3. *PAIN.*

This seems to be a sort of sentinel in the body, sounding the alarm whenever any danger exists; otherwise we should very frequently fall victims to inflammation.

Pain generally, but not always, attends inflammation. We cannot explain it. It is connected with some change in the nerves of the inflamed part; and sometimes it is connected with the kind and the quantity of the blood there. We know that pain is often connected with a more rapid state than natural of the circulation through all parts of the body; and in those cases where any affection exists sufficient to prevent the natural change in the blood from a venous to an arterial kind in its passage through the lungs, the most destructive inflammation may go on without any pain. In the mucous membrane of the bronchial passages, even when intensely inflamed, there is no pain.

Generally the pain is very acute when there is much tension in the part.

Under inflammation of the tunica conjunctiva the pain is very acute. Shakspeare, in "King John," has a beautiful passage connected with this subject. When Hubert, the king's chamberlain, has

determined to put out the eyes of Arthur, the young prince exclaims, in anticipation of the cruel torture—

> " O heaven !—that there were but a mote in yours,
> A grain, a dust, a gnat, a wand'ring hair,
> Any annoyance in that precious sense !
> Then, feeling what small things are boist'rous there,
> Your vile intent must needs seem horrible."

And there are also other parts which are so exquisitely sensible that the slightest inflammation produces great pain; for example, the serous and fibrous membranes.

4. *SWELLING.*

The swelling depends on an effusion of fluid principally; and partly, probably, on the quantity of the blood. And this leads me to observe, that not only is the relation between the atoms of blood and the size of the vessel lost, but also the relation between the blood as a mass and the vessels as a whole structure is lost. If you include a portion of blood in an artery, between two ligatures put around that artery, that blood will be longer in coagulating than it would be in other parts. This then seems distinctly to be the case in inflammation. The relation between the blood as a mass and the vessels as a whole structure is lost, and this relation being disturbed, the blood becomes more dark and assumes more of the venous character; it becomes flocculent, and at last stagnant. And this is almost all the evidence we can have of the interruption to the circulation. In what I call " Local simple excitement" there seems to be no such interruption to the circulation. The mass of blood under inflammation appears to be covered with the buffy coat; but the buffy coat is seldom found except when the pulse is hard and the heat on the surface high. It seems indeed not to be an essential part of inflammation. In bronchitis the inflammation passes on more and more urgently till an effusion of mucus into the bronchial passages prevents the decarbonization or oxygenization of the blood, and thus a black blood circulates throughout the whole arterial system ; and in these cases you seldom find the buffy coat. You may draw blood if the patient labour at the same time under inflammation of the brain and its membranes, of the bronchial lining, and of the bowels, and there will be no buffy coat on the blood.

From what I have mentioned you will have perceived that there are several general circumstances connected with inflammation and of these the following are the most remarkable:—

1. Some change in the nerves of the part.

These are connected with the sensibility, the heat, and the secretions.

2. Some change in the volume of the blood.

From the expansion of the blood by heat the volume of the blood is larger than natural, both in the trunks and in the capillary vessels, and hence the capacity of the vessels must also be increased.

3. Some change in the diameter of the vessels.

The diameter of the vessels is increased, and their contractility is gradually diminished till it is entirely lost, so that the blood stagnates in the inflamed part.

When the inflammation is sufficient to produce a change in the whole nervous system the heart's action is increased, and consequently there must be—

4. Some change in the motion of the blood.

The motion of the blood is necessarily increased; but as we have no evidence that the motion of the blood through the inflamed parts is increased, it probably is not the case. At least we cannot prove that it is increased, and all the facts of which we are in possession favour the contrary opinion, namely, that there is an interruption to the circulation of blood through the inflamed part.

5. Some change in the constitution of the blood.

This is evident after death, on dissection of parts which have been the seat of inflammation; and very often upon examination during life on external parts.

When the circulation is rapid the blood is generally florid. Our pathology only goes to consider the changes which take place in the solids; but many diseases are connected with changes in the fluids, as small-pox, hooping-cough, scarlatina, &c.

Now I avoid all allusion to the doctrine of increased or diminished action, as they are terms which are used without any precise meaning. And, as Sir Roger de Coverley observes, "a great deal might be said on both sides of the question;" but to what purpose? You must, in short, draw your own inferences.

LECTURE XVII.

COMMON INFLAMMATORY FEVER.

THE EFFECTS OF INFLAMMATION.

The effects of inflammation, which are generally called the Stages or Terminations of inflammation, are of two kinds, which I shall call the Immediate Effects and the Remote Effects.

The Immediate Effects are those which take place about the inflamed part.

The Remote Effects are those which take place in other parts.

Writers have enumerated many terminations of inflammation, which is a most unphilosophical word applied to inflammation; for it can only *terminate* in one way, namely, resolution (if that ever happen); and the others are stages, periods, processes, or effects of inflammation. Hunter called them Adhesive inflammation, Suppurative inflammation, and Ulcerative inflammation; and this method of giving names is now too much neglected.

Surgeons call the immediate the Local effects, and the remote the Constitutional effects. I dislike the word constitutional; it is a slang word in physic as much as it is in politics. You may safely defy any surgeon to define to you exactly what he means by the word "constitutional." It means anything or nothing, just to suit the purpose of the individual, and is used for self-delusion or for the deception of others. We really do require great precision in our language, and all mistakes in language should be corrected as quickly as possible. We should correct them as a gentleman did when he stepped into a shop and said, "I want some rosin for my fiddle." "You mean," said the shopkeeper, "for your fiddlestick." "No, I don't," replied the gentleman, "I mean for the hairs of my fiddlestick."

THE IMMEDIATE EFFECTS OF INFLAMMATION.

1. *EFFUSION.*

And this effusion may be—1st. Simple; 2d. Adhesive; or 3d. Suppurative.

1st. If the effusion be Simple, it is nothing but an increase of the

natural secretion of the part; as an effusion of tears from an inflamed eye.

Or it may be an effusion of blood from an inflamed part, which may be called simple effusion; as, for example, an effusion of blood from inflammation of the mucous membrane of the bronchia, or of the small or large intestines.

Effusion of blood, however, is not always the consequence of inflammation: and it may occur in two ways from inflammation; sometimes by rupture, but much more frequently in my opinion by transudation; and in this I concur with Laennec, the author of the very interesting work on diseases of the chest.

When inflammation terminates by simple effusion it is what surgeons generally call the termination by resolution. There is, strictly speaking, no such thing as resolution; for after inflammation there is always some change taking place; a part is never left in the condition in which it was previously to the inflammation.

2d. Adhesive effusion.

This is an effusion of the fibrin of the blood. Let blood be drawn from an individual with a hot skin, with a hard pulse, and with some local pain; and if you view this blood after the crassamentum has separated, you will see a white crust, which is called the buffy coat, on the top. This is the fibrin of the blood. Celsus was quite aware of the circumstance that this is the bond of union between divided parts; and a knowledge of this fact has led to all the great improvements which have taken place in operative surgery. A surgeon, when he removes a limb, adapts the divided parts together by their surfaces; fibrin is effused; little red points shoot into it, and these soon become new vessels, by which means the fibrin is organized and becomes the bond of union between divided parts. This is the way in which arteries are secured when they have been tied; the sides of of the vessel adhere, and hemorrhage is consequently prevented.

Adhesive effusion sometimes is, and sometimes is not, vascular: sometimes it is, sometimes it is not, organized. When the effusion is on a mucous membrane it is not so often organized, but very frequently when it is on the serous membranes. Thus folds of intestine are glued together, and the liver to the adjacent parts, &c. When union between the serous membranes takes place, the first change is a deposition of lymph; next a streak of blood, which soon forms a cylinder, ramifies, and carries red blood. As I have already hinted, it is partly from effusion of lymph that hemorrhage is prevented, for

without this the ligature would be of no use. Ambrose Paré was the first who introduced the use of the ligature into surgery.

It was formerly doubted,—and it is surprising that it should have been doubted when the subject of grafting was considered,—that any part having been separated from the body would again adhere to it. I saw an individual whose finger had been separated, and had continued so for near twenty minutes; but the parts being nicely adapted together, adhesion took place between the separated finger and the stump. A part which has been removed from the body we should, *à priori*, say is dead; yet this part may be reunited to the same or to any other part when the skin has been removed. In the time of Celsus this truth was partly known. Benedictus wrote a work on the formation of noses. A surgeon, in 1597, speaks of making new noses from the flesh of the arm ; and of these noses he discourses in very feeling terms, observing that they will not bear either much heat or much cold, or much rough handling. In India the principle is the same, but the skin is cut from the forehead. The spurs of cocks were, by an ingenious experiment, grafted on their combs.

The vitality of a part remains for some time after it has been separated from the body, just as the vitality of the whole body remains for some time after its vitality is apparently extinguished. An individual, for example, has been under water for two minutes, and he appears to be dead: he has ceased to breathe, and the heart has ceased to act. Yet it would be very improper to presume in these cases that vitality is extinguished; for in some cases the life of the individual can be saved.

In surgery we should take nothing for granted; our opinions should be put to the test, and we should not judge from appearances. Suspended animation appears to be death; yet we learn that a person whose animation is suspended from hanging, drowning, &c., may be restored: that the body may be resuscitated.

We should draw no opinions *à priori;* such opinions are very dangerous; but we should form them entirely from the results of our experience.

3d. Suppurative effusion.

This is an effusion of pus, which is a fluid resembling cream, and containing little globules, which swim in a fluid somewhat like milk whey. Senac was the first who observed the existence of these little globules in pus.

This process may take place either externally or internally. If you examine pus with a microscope you will distinctly see the globules in

it; and this is a good test of it. Pus may be found in various parts, but most frequently in the cellular membrane; sometimes in the mucous membranes. When it is formed in the cellular membrane there is generally a destruction of parts; but not if it be formed in the mucous membranes.

The effusion then may be either simple, adhesive, or suppurative; and it frequently happens that these states succeed each other.

In bronchitis at first you generally have simple effusion; next the patient spits up coagulable lymph; and after that he expectorates pus. And the same principle prevails in pleuritis and peritonitis. Pus may be found either with or without a breach of continuity of the parts.

2. *ULCERATION.*

An ulcer is a breach of continuity combined with absorption of the part. This is the definition which is usually given of the process of ulceration.

In the human body we have many proofs of absorption. Most, if not all, parts of the body are undergoing constant changes.

In ulceration there is an actual loss of substance. A part may be absorbed without any loss of organized substance.

Effused blood, in the form of ecchymosis, will be removed by absorption, without any ulceration or removal of an original part. There is, however, in ulceration, a removal of some original structure of the body through absorption; and of course even the absorbents themselves of the part must be removed. There is something about ulceration which still requires further investigation. Probably in this process certain compositions and decompositions go on which have not yet been explained.

Weak parts are the most prone to ulceration; for instance, the throat in delicate persons, and other mucous membranes, especially that of the small intestines.

Upon the whole, the parts most liable to ulceration are the skin, mucous membranes, synovial membranes, and bone.

Some structures resist ulceration very strongly, especially the arteries. Thus it will sometimes, on dissection, be found that the lungs of an individual are a mass of ulcers, the arteries, however, remaining untouched.

Ulceration is most frequently attended with some discharge.

The loss of substance in the part is, in all probability, connected with some change which takes place in the texture of the part before

it becomes absorbed; bone, for instance, becomes softened before it becomes absorbed.

3. *GRANULATION.*

Granulation is the regeneration of the part which has been removed. If a part have been removed by ulceration, then this third kind of effusion succeeds often—namely, granulation; and it is nothing but what I have called the adhesive effusion. Fibrin is effused; red points shoot into it and become vessels; it is organized, forming granulations by which the part is filled up, regenerated, or repaired.

There are some of the inferior animals which have a surprising power of regeneration. Spallanzani relates that there is a species of snail which will regenerate its whole head.

Some parts are renewed in their original characters, but others are not: thus, if a muscle be divided and a portion of it cut off, union will be produced between the ends of the muscle; but the intervening substance will not be exactly like the original muscle. Celsus remarked that cartilage was never regenerated.

I know a man whose appearance was, as he thought, deteriorated by a black spot which he had on the end of his nose. An empiric to whom he applied told him that it might be removed, and that he could make the flesh grow again like grass. He dug out the black spot, but did not perform the whole of his promise, for the man has a hole in his nose to this day. Thus nature does not always obey empirics.

By observing the process of nature in granulation, we learn to imitate her, and for this purpose apply bandages, &c., to bring the sides of a suppurating cavity as much as possible or prudent into contact; and this, Galen called healing by the second intention.

4. *MORTIFICATION.*

Mortification comprehends two conditions—gangrene and sphacelus.

Gangrene is a threatened or a forming mortification or sphacelus; and sphacelus is a complete mortification.

Gangrene is denoted by a sudden diminution of pain, and a purple hue or livid discolouration of the part, which, from being yellowish, becomes of a greenish hue. It is also denoted by a softness of the part; by a detachment of the cuticle, under which a turbid fluid is effused; the formation of vesicles containing blood; the heat, circulation, and sensibility of the part remaining. It may terminate in one of five ways.

1st. In resolution.

2d. In what Mr. Hunter would call adhesive inflammation.

3d. In ulceration; so that the dead part is separated from the living part.

4th. In granulation; and

5th. In mortification, usually called sphacelus, or complete death of the part.

Some parts of the body are very prone to grangrene and sphacelus; these are the external parts of the body.

In gangrene the vitality remains, though the part has a purple appearance, and has vesicles; but the heat, the sensibility, and the circulation of the part remain.

In sphacelus the part is completely dead—its vitality is lost; it is offensive to the smell; the heat and sensibility of the part are extinguished; and the circulation of the part is destroyed. And, generally, on examining a sphacelous part after death, you find the blood coagulated in the vessels, and lymph effused into some of them. Gangrene may be removed by artificial means.

I saw an individual with a gangrenous thumb; it was purple, with livid vesicles. He had intense inflammation of the brain, for which he was bled, and under this treatment the thumb rapidly put on the healthy character, and the inflammation of the brain was removed.

In sphacelus the part is dead, and is got rid of by a natural process, being thrown off in the form of a slough. This is seen in individuals labouring under fever, who lie for a long time upon the back. The back becomes inflamed and black, and a red line of ulceration is then seen to take place around the black part. Ulceration being thus set up, goes on, and at length a slough is thrown off, and the part, if nothing prevent, is then filled up by granulation.

There are besides, and independent of, these four which I have mentioned, other immediate changes.

5. *THICKENING.*

Take for an example the thickening of the cellular connecting membrane from an effusion of lymph. When the mucous membrane of the colon is inflamed, all its coats become thicker than natural; and the same takes place when the mucous membrane of the bladder is inflamed.

6. *CONTRACTION.*

Thickening and contraction of the urethra frequently arise thus; and the same of the cardia, of the pylorus, of the rectum, and indeed, of the other parts of the large and small intestines.

7. *SOFTENING.*

This is often an effect of inflammation, especially in the brain. When a small portion of the brain has been inflamed, it is often found to be softened down, so as to resemble custard-pudding. The same condition, namely, softening, almost invariably attends inflammation of the mucous membrane of the small intestines.

8. *HARDNESS.*

This is another effect of inflammation; and it takes place especially in the lungs, when lymph has been effused into their cellular connecting membrane. Many slow tumours also are formed in this way through inflammation.

THE REMOTE EFFECTS OF INFLAMMATION.

Nothing is more striking than the circumstance that a little heat with a little pain, a little redness, and a little swelling, in a small part of the body, should be capable, from its intercourse through the nervous and vascular systems, of producing a disturbance in all the other parts of the body. Thus then it appears, that inflammation can decidedly and distinctly produce certain remote effects far more important than its immediate effects.

An accident excites and keeps up irritation, and produces a change in the nerves of the part; a state as vaguely called "general irritation" follows, and the heart's action is excited. Though the injury be local at first, inflammation may take place in different parts: the whole mass of blood being put into rapid motion, some irregular distribution takes place, the nervous system becomes affected, the heart's action is embarrassed, the extremities become cold, the blood is accumulated in the centre of the body, and the heart ceases to beat.

Local irritation comprehends two conditions, neither of which is very well known; namely, Local Simple Excitement, and Inflammation; and as I have already shown, these conditions are legitimately separable from each other. This local irritation produces a change in the whole nervous system, which we call general irritation,

a term which we use to express the condition which the local irritation produces through the whole nervous system, but of the nature of which condition we are perfectly ignorant. Whenever you read or hear abstract words made use of, pause, and ask yourself whether the writer or lecturer has attached any distinct meaning to those words.

Pope was sitting in a coffee-room one day, and observed to a friend of his who was sitting by him, that a certain passage of the Iliad was very obscure. A stranger hearing this, said: "If you add a note of interrogation, the meaning will be perfectly distinct then." Pope, who was remarkably small, and very deformed, turned to the stranger and inquired, "Pray, sir, what is a note of interrogation?" "A note of interrogation," rejoined the stranger, "is a little crooked thing that asks questions." Now this "little crooked thing" is exceedingly useful; and when a lecturer speaks of "constitutional disorder," "general irritation," and so on, you should satisfy yourself as to whether he attaches any precise meaning to those words. Gibbon says, with great truth, that men speak rather from their ignorance than from their information of subjects; and they are very apt to deceive even themselves by the use of abstract and cramped terms.

The *first* of these remote effects is referrible to some change in the nervous system; suppose we call it general irritation, meaning thereby a change throughout the whole nervous system.

The *second* of these effects is referrible to some change in the vascular system.

The *third* change seems to be the combined change resulting from the two former changes—a disturbance of the muscular system.

With respect to the vascular system, inflammation affects the motion and the velocity of the blood; and if it go on, it changes the kind of blood, not only in the inflamed part, but probably also through the whole body.

Whenever you see an external inflammation in any part of the body, you should ascertain whether all the internal structures be sound. If the internal state of the circulation be general simple excitement, the external inflammation is comparatively an affection of no consequence. Indeed, after an accident or an operation, such an external inflammation will be beneficial while the internal state of the circulation continues that of general simple excitement; for under it lymph will be effused, and become organized, so as to form the bond of union between the injured parts. But if internal inflammation exist without your being aware of it, it may go on most destruc-

tively. Thus you see the close connection between physic and surgery. You see that a surgeon creates irritation, by which he disturbs both the nervous and vascular systems, through an operation; and if the individual have any weak internal organ it becomes inflamed, unless the case be well managed; and the inflammation may be fatal, unless it be detected and subdued at an early period. A surgeon who takes a mere external survey of the body—who confines his views to mere external evidence, is really a very dangerous character. What can his plasters do "but skin and film the ulcerous place, while corruption, ruining all, lurks and corrupts unseen." The quack who vends his nostrums round the country is nothing compared to this individual, as to the danger of his character to the public. Surgery and physic are inseparable, and I recommend you constantly to connect them together. The separation of them took place abroad, from the cunning of the monks in Paris, who established a college of Physic, and said that the church abhorred the shedding of blood: ("*Ecclesia abhorret a sanguine.*") Getting more powerful, the monks raised a separate establishment, which has been since then an oppressive body. Law after law was framed to oppress surgery more and more; and a surgeon could on no account be made a physician without being defranchised. A similar law exists in this country. If a man go to the College of Physicians in London, he cannot, as a surgeon, be admitted there. No; he must be defranchised; he must undergo absolution; he must be cleansed from the sin of surgery, before he can enter that sanctuary! The surgeons might refuse the doctors on the principle of retaliation. They might say to them, "You can't be a surgeon; you know something of physic; you can have nothing to do with surgery." There are strange monopolies now, both in medicine and in surgery; and in London they are as pernicious to medicine and surgery, and to the public, as would be the monopoly of the Company of Fishmongers. And when the public are once alive to this subject, it is certain that some very important changes must take place. It is a subject of very great consequence, and if no one else does it I mean to call the attention of the public to it at no very distant period. There really are required some very important changes in the Colleges of Physicians and Surgeons, in which the legislature ought to interfere. We require an establishment for ensuring a more practical education than can at present be obtained in our profession.

But to return to the importance of attending to the condition of the internal parts under an external inflammation produced by an accident

or an operation; the first change which I have detailed is in the vascular system;—and the next change is in the muscular system. This is especially displayed in the respiration. Towards the close of inflammation the heart's action becomes hurried, but the muscular power becomes more and more prostrate, and especially the muscles connected with respiration. Death then takes place, unless the medical attendant has the power of arresting the inflammation if it be seated internally.

Aretæus has said, of course figuratively, that no man would die if he had resolution enough to determine to live: and no doubt the existence of such a resolution would often ward off the approaches of death by sustaining the action of the nervous and vascular systems. But it might much more correctly be said that very few persons with acute or sub-acute inflammation of an internal organ would die if the medical man had resolution and judgment enough to act as the occasion may require.

There are some terms which I shall use with reference to inflammation which I may as well here explain.

I shall use the term "Acute inflammation" to denote the highest degree of inflammation.

I shall employ the term "Sub-acute inflammation" to denote a lower degree of inflammation; a degree in which there is less local and less general disturbance.

I use the term "Chronic inflammation" to denote that inflammation which has a protracted character.

The words "acute" and "sub-acute" denote merely the *degree* of inflammation; the word "chronic" denotes the *duration* of inflammation.

Acute and sub-acute inflammation are almost invariably attended by fever; but chronic inflammation very often goes on insidiously without any fever, but, at length, generally winds up with fever.

I use the word "active" to designate the inflammation when it is accompanied with a very strong pulse and a very high heat on the surface. I use the term "passive inflammation" to denote that which occurs with a feeble, soft, compressible pulse, and with a low degree of heat upon the surface. And by and bye you will see the great importance of these distinctions. Fever may exist without inflammation; and inflammation may exist without fever, if it be not sufficient to disturb the whole nervous system, as when it is seated in an external part of the body.

In my future lectures I shall pursue a plan almost entirely different from that which I have hitherto followed.

In my next lecture I shall give the morbid anatomy of all the internal organs, with that of the arteries and veins. Then I shall give a minute description of the symptoms of inflammation seated in different structures; then shall detail the diagnosis of all the internal inflammations; and afterwards I shall give the treatment of these affections.

LECTURE XVIII.

COMMON INFLAMMATORY FEVER.

MORBID ANATOMY OF INFLAMMATION OF THE INTERNAL STRUCTURES AND OF THE ARTERIES AND VEINS.

Having considered the immediate and remote effects of inflammation, the next subject in order is that of the appearances which inflammation produces in the different organs.

I shall commence with the

MORBID ANATOMY OF THE BRAIN AND ITS MEMBRANES.

In pursuing the subject of morbid anatomy it is of great importance to know what is the natural appearance of different parts; in order that you may contrast them with the morbid appearances; produced by inflammation which has been seated there, and displayed by dissection after death.

When inflammation has existed in the Dura Mater, it changes its colour. The dura mater is a fibrous structure, and generally has in health a shining or tendinous appearance; but when inflammation occurs a dense redness is generally left after death, and it adheres more strongly to the skull than natural. The dura mater is very liable to be attacked with what is called rheumatism. It is less liable to acute or sub-acute inflammation than the tunica arachnoides and pia mater.

The Tunica Arachnoides in health is almost as transparent as a pellicle of ice frozen over pure water. After inflammation it generally is opaque, and has a milky appearance; and sometimes you may discover red vessels ramifying across it. The French consider the milky appearance of the arachnoid as a positive proof of inflammation seated in that membrane. I have never seen the arachnoid opaque in cases of acute and sub-acute inflammation, except where the pia mater has been affected. But in cases of chronic inflammation I have seen the arachnoid membrane opaque without the pia mater being affected. Anatomists say that the arachnoid is not vascular; but this is not correct, for I have seen it distinctly charged with red blood. The tunica arachnoides and pia mater are, I think, simultaneously affected by acute or sub-acute inflammation.

When the Pia Mater has been inflamed it is excessively distended; both the arteries and the veins containing more blood than natural.

When the Brain itself has been inflamed it exhibits, on cutting its substance, many red points, and you see then little red knots full of blood, especially on the medullary portion.

You must not, however, be content with one morbid appearance alone as an indication of the seat of inflammation, for you will find other concomitant morbid appearances.

In inflammation of the Membranes of the brain you will find an effusion of serum, either with coagulable lymph or with pus, between the membranes, or at the base of the brain, or in the ventricles. Effusion into the ventricles is very frequently found; and when the fluid has been slowly effused in this situation the convolutions of the cerebrum are sometimes unfolded; as, for example, in cases of sub-acute inflammation which have wound up in chronic inflammation. In these cases it sometimes happens that, the bones giving way, even as much as a pint of fluid is effused, and the convolutions are unfolded till the brain looks like a red night-cap lined with white. In cases where there is copious effusion into the ventricles, the choroid plexus is blanched and flabby; at least I have never met with but one exception to this, and in that case the choroid plexus was pale and flabby only on one side. In these cases, too, you frequently find softness about those parts which form the floor and sides of the ventricles; so much so, that if the head be much shaken in getting off the calvarium, portions of the brain will fall from the sides of the ventricle into the effused fluid.

Sometimes when the Brain has been inflamed, it is softened by portions; and this can only be detected by examining all the parts of the brain. In slighter cases of inflammation of the brain you will find the brain having a rose-coloured or a yellowish tinge. In the higher degrees of inflammation you will sometimes find it softened so as to be something like custard-pudding.

If the inflammation have been rapid in its progress and termination, the brain is generally firmer than natural. But when the inflammation is more slow, having gone on, for instance, during two or three weeks, then the brain is usually softer than natural.

You must, however, take into account the time of examining the brain; for in many examples you will find it more or less softened, if it be not examined earlier than forty-eight hours after death.

You must also take into account the influence of exposure to air. If you have taken off the membranes from the brain, and left it exposed

while you proceed to examine some other parts of the body, you will often find the brain softened from the exposure to the air.

MORBID ANATOMY OF THE SPINAL CORD AND ITS MEMBRANES.

You will find the same appearances in the spinal cord and its membranes when they have been inflamed, with this exception, that the nerves at their exit are generally very much affected. Recollect that the spinal cord always contains after death a considerable quantity of blood from the position of the body. The corpse is laid upon the back; and you must take into account the influence of the laws of gravity upon the blood in the spinal cord: so that you must look also for other evidence of inflammation besides a large quantity of blood: such as an effusion of serum, of lymph, or of pus; ulceration, &c.

With respect to other parts of the body, the morbid appearances produced by inflammation are still remarkably similar. To proceed with the—

MORBID ANATOMY OF THE FAUCES AND AIR-PASSAGES.

1. I may observe that Cynanche Tonsillaris alone never terminates fatally, as far as I have observed. It seldom is fatal without inflammation about the pharynx and larynx.

I saw a patient in the Fever Hospital who had been the subject of a common attack of cynanche tonsillaris. Suppuration occurred in one, and ulceration in the other tonsil; the pharynx and larynx became inflamed and ulcerated; and, secondarily, some of the cervical vertebræ became diseased.

Van Swieten mentions a similar case, in which the cervical vertebræ became secondarily affected from inflammation in the throat.

2. When the mucous membrane of the Larynx has been the seat of inflammation the appearances are very uniform. In all the cases of this kind which I have seen, the mucous membrane of the pharynx has been simultaneously inflamed. Sometimes the inflammation is concentrated about the epiglottis, the under part of which is intensely injected with red vessels, and is œdematous and swollen. You should recollect that this redness disappears from the epiglottis very rapidly: and in order to observe it you should examine the body shortly after death. The best rule to have with respect to this is to wait about twenty-four hours after death in this country, from a proper respect to delicacy. You cannot request an examination of the body sooner than twenty or twenty-four hours after death; and you should always pay proper attention to the feelings of the friends.

You are aware of the natural appearance of the lining of the larynx; for instance, when a patient has died of inflammation in the bowels, or any other internal organs, the lining membrane of the larynx is very nearly white. But when the mucous membrane of the larynx is inflamed you will find it after death pencilled by red vessels. These red vessels will be seen running every way, and ramifying across the mucous membrane as the fibres ramify across a leaf. And there are usually broad blushes of inflammation.

There is, at the same time, swelling of the parts, which arises partly from the red blood contained in the capillary vessels, and also partly from an effusion into the subjacent cellular membrane.

The redness sometimes extends from the larynx into the trachea, and even down the bronchial lining. Occasionally, however, the redness is limited as if by a line drawn across the larynx,—say at its centre. You have also (as I have just stated) effusions of serum into the subjacent cellular membrane; sometimes an effusion of lymph about the mucous surface; and sometimes an effusion of pus without ulceration; and when it has been protracted ulceration, generally about the epiglottis. When the inflammation is chronic it sometimes goes on to the most destructive ulceration of the cartilages.

I have seen the gullet and the larynx at the same time inflamed; for example, in cases of small-pox.

3. When the mucous membrane of the Trachea has been inflamed, you have a pencilled appearance of red vessels, and a diffused red blush of inflammation, very often with an effusion of coagulable lymph, or (as it has been called) 'false membrane,' which is moulded into the form of the trachea. This false membrane very often is present, but not always. Sometimes it extends down the mucous membrane of the trachea to that of the bronchia, when the bronchial lining has been at the same time inflamed. Occasionally lymph is effused into the trachea in patches. Sometimes, however, only a frothy sort of mucus is found.

There are certain specific occasions which produce very extensive effects in the way of inflammation; for example,—the contagion of small-pox, of measles, and of scarlet fever.

In small-pox the fauces, the pharynx, the larynx, the trachea, and the bronchia, are found inflamed when the case has terminated fatally.

There is, however, one exception to this, which is in typhus fever, in which cases the inflammation mainly falls on the mucous membrane of the bronchia, and is invariably found there; while, generally, though not always, the larynx and trachea are free from inflammation; and in

fatal cases of typhus fever it rarely happens that lymph is effused about the trachea or bronchia.

4. When the mucous membrane of the Bronchia is inflamed you find it highly injected, while in the healthy condition it remains white and blanched. You also find the membrane darker than natural; and the reason for this is an effusion of a muco-purulent fluid, which you find besmearing the membrane, and which is the cause of death. This effusion prevents the blood from being in contact with the air, and hence the membrane is darker than natural. If you wipe off this fluid with a sponge the membaane will become vividly red, because you will enable the air to come into contact with the blood.

In some sudden and severe cases of bronchitis there is a copious effusion of serum into the bronchial passages, and here there will be a less intense appearance of injection.

In specific cases of bronchitis the lining membrane is still darker, especially when the tongue is dry, brown, and glazed before death. And the difference between these cases and those of common bronchitis is this,—that in bronchitis from specific or peculiar occasions, the secretion is not so copious in quantity as in common bronchitis; but is more sticky in kind, and therefore excludes the air more effectually from contact with the blood.

Sometimes only one of the bronchia is affected. Sometimes if you open the chest in bronchitis, the most extensive mischief is seen; and though these are the most common appearances produced by inflammation of the mucous membrane of the bronchia, you will also find other appearances.

The lung pits on pressure. When you press the lung with your finger, that portion of it, instead of rebounding, sinks down from an effusion into the cellular membrane. Again, on examining the substance of the lung itself, you will find it very much loaded with dark blood. If you cut the lung a bloody serum oozes out together with a muco-purulent fluid from the bronchial passages, and some portion of the lung generally sinks in water. The blood is found also a fluid gore in the right side of the heart and large adjacent vessels; these contain blood more fluid than natural.

MORBID ANATOMY OF THE LUNGS.

You may have a good idea of what I call congestion of the lungs, by observing what in every case takes place in the lower part of the lungs after death. This part then contains a large quantity of black blood from the common law of gravity. This will give you a tolerable idea

of genuine congestion, in which the lung has an appearance so much like spleen, that I believe an experienced anatomist in many cases would not be able to say whether it was a portion of lung or of spleen.

The whole substance of the lung is sometimes thus congested. But sometimes it happens that the whole lung is not congested; and then how do you distinguish congestion of a portion of the lung?—Very easily. In the first place, the congestion is not at the lower part of the lung, to which the blood has a tendency to gravitate after death; but it is in some other portion of the lung. In the next place, in congestion the gorged part terminates much more abruptly, and is much darker than in inflammation, in which it terminates by almost imperceptible shades. The French call this appearance of the lungs "pulmonary apoplexy," and it frequently precedes hemorrhage from the lungs.

With respect to the morbid appearances produced by inflammation of the lungs, Laennec has given by far the best account of them. His is the ablest work on pathological anatomy I have seen. To those who read French fluently I particularly recommend the original work; to those who do not I recommend the valuable translation by Dr. Forbes.

When inflammation of the lungs terminates in—

The First Stage, the inflamed portion of the lung is more vascular and gorged with blood—more red and livid than natural. If you slice a portion of the lung across with a scalpel a copious effusion of bloody, frothy serum follows the knife, oozing out from each of the cut surfaces. If you examine the lung you will find that it is still of the natural spongy structure, and has the crepitous feel. The inflamed lung is heavier than natural and sinks in water; which is also the case in congestion in the lungs. When a patient dies of inflammation of the trachea or bronchia, the lower part of the lung is always gorged with blood. The engorgement which takes place in congestion is mostly universal in one or both lungs.

When inflammation of the lungs has terminated in—

The Second Stage, you have different appearances from those of the first stage. In the first stage only serum is effused: in the second stage coagulable lymph is effused into the cellular connecting membrane, and the lung is converted into a substance very nearly resembling liver; and closely resembling liver when the effusion has gone on so long as to allow a portion of the lymph to become organized. This has been emphatically called "hepatization of the lung." This effusion gives a hardened feel to the lung. If you slice a portion of the lung across, no bloody fluid follows the knife as in the first stage, but you may scrape a dirty coloured fluid from each cut surface. And if you examine the

cut surface, especially by the aid of a magnifying glass, you will see a granulated appearance of the lung, probably from an effusion of lymph. When inflammation of the lungs has terminated in—

The Third Stage, there still remain some of the characters of hepatized lung; but you will find also a yellow purulent effusion into the cellular connecting membrane of the lungs, which issues out when you slice the lung across. This is the common "suppuration of the lungs." You must, however, be informed that a circumscribed abscess of the lungs from acute and sub-acute inflammation is a very rare thing. Men go in herds; and because Cullen has said that acute abscess of the lungs is common, medical men generally say the same. If any man make an assertion, however incorrect, there are some who will follow it up. Look at the state of religion in this and in other countries, and see how the world is divided into sects, each taking up certain opinions merely because this or that man has said so. And amongst Christians a great many persons adhere to certain opinions because they were maintained by Wesley, by Calvin, by Luther, or by some other individual. In religion, as well as in physic, men are too apt to surrender their judgments to certain individuals; and if in the one case men appealed more to the Volume of Revelation, and in the other to the volume of Nature, there would be far less difference of opinion than now exists. It is dangerous in physic as in religion to be led by particular individuals; and if a man wish to be satisfied of the truth, he must be led to make the most careful examination of facts for himself. And, besides, it is degrading and disgraceful to a rational being to take up any thing for granted without examination. Laennec in examining the bodies of five or six hundred patients who died of inflammation of the lungs, found only six or seven cases of abscess in the lungs.

Circumscribed abscess of the lungs, I repeat, from acute and sub-acute inflammation, is an extremely rare occurrence; but it is not a very rare occurrence in chronic, ill-conditioned inflammation, which is attended by an effusion of curdly, ill-conditioned matter. Laennec appears to me to have committed a great mistake in calling this an "infiltration of tubercular matter," for I have seen it where there has been no trace of a tubercle.

MORBID ANATOMY OF THE PLEURA.

The following are the appearances connected with inflammation of the pleura:—You will have redness in lines and in blushes, and when the inflammation goes on its natural course, undisturbed by treatment,

there is always an effusion of serum into the bag of the pleura, with either lymph or pus, but most frequently lymph.

In strong subjects the lymph is generally remarkably hard and firm; but in weak subjects it is loose. In both cases it is tinged so as to look like rennet whey. This gave the older authors the idea of what they called Empyema: they thought this was a collection of pus, produced by an infiltration of pus from the lungs through the pleura pulmonalis into the bag of the membrane. Such an empyema, however, is very rare. Our systematic writers state that empyema, or a bursting of an abscess of the lungs into the bag of the pleura, is not unusual; but this is not true. What they denominate empyema is this effusion of serum and thin coagulable lymph, which is somewhat like milk-whey and curds. Sometimes pus is effused from an inflamed pleura. The effusion of serum which takes place into the bag of the pleura is coloured either by pus sometimes, but generally by lymph. Not uncommonly a very large quantity of serum is effused, so that pleuritis terminates in Hydrothorax.

In the sanative process, when it takes place, serum is effused; and if there be layers of coagulable lymph, the two layers of pleura come into contact, and new vessels are formed, which knit the pleura pulmonalis and the pleura costalis together; so that what was a sanative process becomes, on the contrary, one—when the adhesions are uncommonly close—by which the motions of the lungs may be impeded. Sometimes, however, the adhesions are in bands, so as to allow of considerable play to the lungs.

When the effusion of lymph upon the pleura pulmonalis and pleura costalis is very large in quantity, and when the effusion of serum has continued for a very long time, it compresses the lung from the mere weight of the superincumbent fluid, so that the lung becomes of a grey-reddish colour, closely resembling muscle: it deserves the name of Carnification.

Occasionally it happens, as Laennec has explained, that from inflammation of the pleura contraction of the chest occurs. A copious effusion of lymph and serum takes place into the bag of the pleura: the serum becomes absorbed, but the lymph remains, and pressure is made upon the lung; and as the lung cannot rise to meet the ribs, the ribs must necessarily descend to meet the lungs, and the person walks about with an obvious contraction of the chest on one side.

I saw a case in which before death one side of the chest sunk, and corresponding to it was a slight adhesion, different to what Laennec

mentions. These patients most frequently lean to one side when they walk.

Partial adhesions often take place from effusions without pain, the consequence of slight inflammation, which is not perceived. You will scarcely examine any person above forty years of age in whom there is not some adhesion of the pleura, although perhaps through life there was no complaint of symptoms of inflammation of the chest.

Sometimes there is a layer of lymph spread out upon the pleura costalis or pleura pulmonalis,—whichever has been inflamed. If the adhesions be easily ruptured they are recent; but if they be firm they are old. Sometimes the adhesion is in the form of bands. When the disease has not been stopped, if you examine you will find occasionally one side of the chest larger than the other, from the effused fluid pushing it outward.

MORBID ANATOMY OF THE PERICARDIUM.

When the pericardium has been inflamed you will find a copious effusion into the bag of the pericardium, and the surface of the heart covered by an effusion of lymph, in such quantity as to give it the appearance of tripe. In slighter cases sometimes there are adhesions of the pericardium to the heart. Sometimes you will see white spots upon the pericardium, which are the remains of former slight attacks of inflammation of the pericardium. You must recollect that in the agonies of death it is common for an effusion, to the amount of three, four, or five ounces, to take place into the pericardium; but this effusion is of thin and transparent serum, without redness, or any mixture of lymph.

I have seen patients convalescent from rheumatism die very suddenly. On examining them I have found no morbid appearance sufficient to account for death: this may have arisen from not having made a sufficiently minute examination. By such circumstances as these I am more and more fully convinced that I am but a mere student of medicine, especially in the examination of morbid anatomy. In future, in examining these cases I shall be careful to inquire into the state of the spinal cord. The attack comes on suddenly, with a pale face, a pallid surface of the body, a feeble and irregular pulse; and the patient breathes by fits and starts. I have seen patients generally die thus in a few hours. It arises from a spasmodic affection of the muscular fibres of the heart, and of the muscles concerned in respiration.

MORBID ANATOMY OF THE MUCOUS MEMBRANE OF THE STOMACH AND INTESTINES.

As to the appearances consequent upon inflammation in these parts, you must bear in mind, that in the healthy condition the mucous membrane of the stomach and intestines is blanched.

Now there are three conditions, the combination of which will lead you to infer that inflammation has been seated in the mucous membrane of the stomach and intestines.

1. Redness.

This will be pencilled and diffused in rays and in blushes. You will have also some degree of—

2. Pulpiness of the mucous membrane; and also some degree of—

3. Thickness of the mucous membrane; arising partly from the injection of the capillary vessels with red blood, and partly from an effusion of fluid into the subjacent cellular membrane.

Occasionally you will find an exudation of blood, and I have found this in spots like internal petechiæ.

In the Small Intestines especially you will very frequently find ulceration, and you will observe it under two conditions:—*First*, when the inflammation has existed in patches the size of sixpence, a shilling, or a half crown; *secondly*, in other cases where the inflammation has been diffused over a very large portion of the mucous membrane. In either of these cases ulceration of the small intestines is a very common circumstance. There is one condition which precedes this ulceration; and it is, that the mucous follicles are larger than natural, and that the mucous surface becomes puckered. You can prove that this is not ulceration—that there is no absorption of the surface—that the continuity of the membrane is entire; for if you stretch the membrane it will be obvious to the eye. When ulceration has taken place the ulcer has ragged edges, with a loss of substance in the centre.

In the Large Intestines ulceration gives the appearance of honeycomb, combined with thickening of all the coats of the intestines. Ulceration is more frequently found in the mucous membrane of the lower part of the ilium than in any other part of the intestinal canal.

In the Stomach, especially about its great end, it sometimes happens that a hole is formed by the gastric juice, which first produces thinness and pulpiness of the coats, and then complete solution; so that the contents of the stomach may escape into the abdominal cavity. Sometimes ulceration of the mucous membrane of the small intestines pene-

trates through the peritoneal coat, permitting the contents of the gut to pass into the cavity of the abdomen; but this is a rare occurrence.

How is the escape of the contents of the intestines into the peritoneal cavity prevented?

First, by an effusion of lymph, so that adhesion takes place between the edges of the ulcerated part and an opposite fold of the intestines; and—

Secondly, by the uniform pressure of the abdominal muscles.

The stomach and small intestines have their mucous membranes simultaneously inflamed more frequently than the mucous membrane of the small and of the large intestines.

It sometimes happens that the mucous membrane of the stomach and of the large intestines are inflamed together, but it more frequently happens that either is inflamed separately.

MORBID ANATOMY OF THE SEROUS MEMBRANE OF THE STOMACH AND INTESTINES.

The morbid appearances produced by inflammation in these parts are remarkably uniform.

I may premise that mortification of the bowels, though often talked of, is a very rare occurrence. The fact is, that inflammation of the bowels generally proves fatal before it reaches the point of mortification. Under that state which has often been called mortification, the intestines are quite sound in texture, and will bear to be tugged about and roughly handled; but in mortification of the coats of the intestines they will separate readily on the slightest touch. Even in hot countries it is very rare.

A friend of mine, who examined a great many bodies after inflammation of the bowels in hot countries, told me that he had never found a case of genuine mortification of the bowels, though the weather was so hot that he was obliged to make his examination in a very few hours after death.

I have never found the bowels mortified except under strangulated hernia, or from the influence of poisons.

The appearances produced by inflammation of the serous membrane of the stomach and intestines are—redness; effusion of serum, lymph, or pus; and sometimes adhesion between the coils of intestines, from the effused lymph having become organized. You are aware that pus does not admit of organization.

Occasionally you will find the combined appearances of inflammation of the serous and of the mucous coats of the intestines. The mucous

membrane of the bowels then becomes first inflamed, and then terminates in ulceration, which goes on to corrode the coats of the bowels till it reaches the peritoneal covering; which being thus irritated becomes the seat of intense and fatal inflammation. On examining the body after death you find appearances of inflammation both of the serous and of the mucous coats of the bowels.

MORBID ANATOMY OF THE MESENTERIC GLANDS.

The mesenteric glands are often found enlarged; and when this takes place I believe it is always secondary to some preceding inflammation of the mucous membrane of the bowels. Sometimes these glands are simply enlarged; sometimes they are inflamed; and sometimes you will find in them ill-conditioned pus of a curd-like character.

MORBID ANATOMY OF THE LIVER.

The serous membrane of the liver is very often inflamed in this country, especially that part of the peritoneum which covers the convex surface of the liver.

After death, in fatal cases of this kind, you will find redness, and an effusion of lymph generally; sometimes an effusion of pus; and very often adhesions to the adjacent parts.

When the substance of the liver has been inflamed, it will be found to be much more vascular than natural. This inflammation sometimes passes on to suppuration, and the abscess is generally very large. This seems to be very common in hot countries; but acute inflammation and abscess of the substance of the liver is not common in this country. In this climate, afte acute or sub-acute inflammation, hardness of the liver is the most common occurrence; and, after chronic inflammation, softening of the liver, so that it readily breaks like gingerbread.

MORBID ANATOMY OF THE KIDNEYS.

Dr. Baillie observes that inflammation very rarely takes place in the proper capsule of the kidneys; and this observation is correct. The reason is, that the connexion between it and the peritoneal coat is but slight.

When the substance of the kidney is inflamed you will find the whole structure of the kidney more vascular than natural, and an effusion of serum into its interior. When the kidney is acutely or sub-acutely inflamed abscess is not common; but abscess often occurs from chronic inflammation, either arising from the presence of a stone or from any

other cause. In such a case you will probably find a large quantity of pus effused into a kind of cyst, so that the substance of one kidney is completely consumed.

MORBID ANATOMY OF THE BLADDER.

After inflammation of the internal coat of the bladder you will find appearances similar to those produced by inflammation of the mucous membrane of the intestines; namely, redness, pulpiness, and thickness of the membrane.

After inflammation, too, of the serous membrane of the bladder, the appearances are the same as after inflammation of the serous membrane of the intestines; namely, redness, with an effusion of lymph or pus.

Inflammation of the mucous membrane is far more apt than inflammation of the serous membrane to degenerate into a chronic state, which becomes a very distressing affliction to the patient. The dropping of the urine into the bladder keeps up the irritation; and it very commonly happens that the acute or sub-acute inflammation of the bladder winds up in chronic inflammation, which goes on to disorganize the structure of the parts, so that upon examination you find that ulceration has taken place,—in the female into the vagina; and in the male into the rectum. So that inflammation of the bladder may lead to one of the most distressing conditions which can befall an individual.

MORBID ANATOMY OF THE UTERUS.

If the peritoneal coat of the uterus be inflamed it becomes red; and generally lymph, sometimes serum, sometimes pus, is effused into the pelvis.

Sometimes the substance of the uterus is inflamed, and sometimes its mucous membrane.

When the mucous lining of the uterus is inflamed it is red, as in inflammation of other mucous membranes; and in these cases the inflammation is very apt to extend up the mucous membrane of the Fallopian tubes to the ovaries.

Inflammation of the uterus seldom occurs except after delivery.

MORBID ANATOMY OF THE VEINS AND ARTERIES.

Inflammation of the veins and arteries sometimes occurs after delivery; and my friend Dr. Davies thinks the veins are inflamed in Phlegmasia Dolens; but I believe that the arteries also are then inflamed.

Inflammation is frequently found in the internal iliac vein, in the crural or femoral vein, or in both; and sometimes in the internal iliac artery, or in the femoral artery, or both.

I saw two cases where the inflammation of the internal iliac artery extended along the aorta even to the left side of the heart.

I have never seen inflammation entirely confined to the veins and arteries; for I have in such cases invariably found some other internal organ simultaneously inflamed.

Now, in considering what are the signs by which inflammation may be known to have existed in the veins or in the arteries, recollect, *first*, the natural colour of the veins, and the natural colour of the arteries; and, *secondly*, that both the veins and the arteries are liable to be stained by the blood. For instance, the aorta is often stained by the blood, of which it contains a large quantity, for it is not true, as it is usually stated, that the blood after death entirely leaves the arterial system. The same sanguineous stain may often also be observed in the veins.

Now how do you distinguish this dye from the result of inflammation —? The distinction is very easily made.

1. If an artery or a vein have been inflamed, you see the vasa vasorum injected with red blood on its internal coat.

2. The inner tunic is raised and rough, as may be distinctly seen by the aid of a microscope.

3. There is generally an effusion of lymph or pus with the coagulated blood, and sometimes there are spots of ulceration.

Inflammation of the veins and of the arteries occurs by far more commonly in what are called "low fevers" than in other examples of fever. Such inflammation is not uncommon after erysipelas or typhus fever, when they put on the low, putrid, or malignant character.

The opaque spots which are occasionally found upon the arteries are often the products of inflammation. You very often see these white spots in the cavities and about the valves of the heart.

LECTURE XIX.

COMMON INFLAMMATORY FEVER.

SYMPTOMS OF INFLAMMATION OF THE BRAIN AND ITS MEMBRANES IN CHILDREN AND ADULTS.— HYDROCEPHALUS INTERNUS.

The first object in the practice of physic is to know how to distinguish disorders and diseases. The next object is to know how to treat them when they are recognised. Unless we arrive at the former of these we cannot attain the latter, but shall be prescribing at random.

I think it will facilitate the study of the subject before us if we consider separately the symptoms and diagnosis of inflammation as it occurs in each internal organ, before we advert to the treatment; because I think that by thus considering each department separately, I shall be able to give a more distinct view of the whole.

I have in a former lecture stated that the anatomical pathology of a disease is that condition which is displayed by dissection after death. It shows the last effects or ultimate results, but not the intermediate changes between the occurrence of the symptoms and the termination of the disease.

We may see this illustrated in inflammation of the eye. The eye may become inflamed, and the whole globe may be destroyed by the progress of ulceration; and if we trace the history of the case from the commencement to its termination, we shall find that many intermediate circumstances had occurred.

We must therefore not take the anatomical pathology as involving all the considerations with respect to the condition on which the symptoms have depended. We must take into account what happens in the external parts of the body, and we may from this infer what occurs in the internal parts of the body, though the evidence will be only circumstantial. The evidence of internal inflammation, however, amounts almost to a certainty if we be minute in our observations; and this can be reduced to a certainty after death.

I shall begin with the—

SYMPTOMS OF INFLAMMATION OF THE BRAIN AND ITS MEMBRANES.

Not less than four individuals of high distinction have fixed upon inflammation of the brain as the sole cause of fever. This may perhaps be very classical; but another individual might with equal propriety fix on the great toe, in which member there is often some uneasiness in the febrile state. The French fix on the mucous membranes; as if we were, in fact, entirely a mass of mucous membranes rolled together like a bale of cloth. The French are remarkable for assuming to themselves credit for inventions which do not belong to them. This is not their own original idea.

I have said that all the symptoms of disorders and diseases might for the sake of convenience (as has been done by some of the older authors) be arranged under the three following heads:—

1. Certain uneasy sensations;
2. Certain disturbed functions; and—
3. Certain external changes evident to the eye.

In the consideration of all the forms of internal inflammation I recommend you not to be guided by any one symptom, which will often deceive you; but if you take the concurrence of symptoms into account, you will hardly ever be misled.

In speaking of inflammation of the brain I shall describe it as it affects adults and children. The complaints of children have been separated systematically from those of adults; and this separation appears to be prejudicial, for the same pathological principles apply to each.

Now the first and most remarkable circumstance in the combination of symptoms which denote acute or sub-acute inflammation of the brain and its membranes, is—

1. Pain.

This varies in some degree according to the duration of the disease. It is the most distinct in the highest degree of inflammation of the brain; and it is more acute when the membranes alone are inflamed than when the substance of the brain alone is inflamed. This is a very remarkable fact.

Whether the inflammation be acute or sub-acute, the pain is generally the most distinct in the evening and during the night. And the reason probably is, that the circulation of the blood generally is more rapid in the evening and through the night than in the morning and

during the day; or if the frequency be not greater, yet the force of the heart's action is then greater.

The pain of the head which occurs in acute and sub-acute inflammation of the brain and its membranes, is almost invariably increased by the erect position of the body, by light, by noise, or by coughing. It is generally increased by shaking the head, which is indeed, a very good test of such inflammation. Tell the patient to shake his head; and if he labour under inflammation of the brain and its membranes, he will generally do it with extreme caution; but if there be no such inflammation he will give his head a good hearty shake.

There are, however, exceptions to this: for I have seen a patient able to shake his head well under the most distinct evidences of inflammation of the brain. I met with such a case last week. A gentleman for whom I had prescribed in London was taken ill at B——, a village near Oxford, and sent for me to see him. Part of the road near this village was remarkably rough, and shook me excessively. I found the gentleman labouring under slight inflammation of the brain, and slight inflammation of the mucous membrane of the bowels. On my return I avoided that part of the road which was so rough, and took another route. The next day I was sent for to see a rector at Hampstead, whom I found labouring under inflammation of the brain. He told me that he had been residing at B——, a village near Oxford, and that on his way to town he came over a piece of very hard rough road, by which he was so shaken, that he was quite confident it brought on the attack under which he now laboured. Shaking, indeed, will even produce inflammation, when the brain is much predisposed to it. This gentleman could bear to shake his head without any increase of the pain, which was situated in the crown and in the back part of the head; yet both the brain and its membranes were, in this case, distinctly inflamed.

In considering the pain you must recollect that there are two stages of inflammation of the brain.

The first stage is marked by an increased sensibility, or capacity or power of sensation; so that all stimulants and irritants then make a stronger impression than they do in a healthy condition.

In the second stage of inflammation of the brain the converse of this is the case, and this stage is marked by torpor or a diminution of the sensibility of the body; so that these stimulants and irritants make a less powerful impression on the nervous system than they do in a healthy condition of the body.

I make this observation for the purpose of illustrating the fact, that

pain is almost entirely lost in the second stage. The pain at first diminishes, and then ceases, and at length the individual loses entirely all sensibility to surrounding circumstances. But even in the first stage pain is sometimes absent; the patient only complains of a sensation of tightness, fulness, or throbbing. When inflammation of the brain and of the bronchial lining exist simultaneously, it very frequently happens that there is then no pain in the head. Nothing is more common than to find after death, in cases of typhus fever (in which cases the membrane of the bronchia is always inflamed,) an intense inflammation of the substance and membranes of the brain, though no pain in the head may have been felt throughout the whole progress of the case. This arises from the bronchial affection, which prevents the natural change from taking place in the blood as it passes through the lungs, so that a darker blood than natural is carried through the arterial system, and deadens the sensibility of the nervous system. But even in this case, if you take into account the other circumstances, that is, the combination of the other indications of inflammation of the brain, you will be at no loss to distinguish it. Both children and adults who have a slow pulse and a torpid colon often complain of pain in the head: and as this cannot be referred to increase of the heart's action, we must refer it to sympathy.

Connected with acute or sub-acute inflammation of the brain and its membranes, there is a peculiar expression in the eye, which shows—

2. The mixture of physical brightness and intellectual dulness.

The globe of the eye, at least the lucid cornea, is physically brighter than natural, but there is at the same time an expression of mental dulness or lassitude.

This is generally the case; but there are exceptions even to this. When the patient is in a state of high delirium or phrensy the expression of the eye is sometimes remarkably wild and vivid, indicative of excessive energy of mind. Recollect, however, that this is an exception to the general condition. There generally is—

3. A dropping of both the upper eyelids.

The upper eyelids overhang the globe of the eye to a greater extent than natural. In the last stage of inflammation of the brain there is a depression of one eyelid more than of the corresponding lid of the other eye; for instance—the left upper lid overhangs a larger portion of the globe than the right. This arises from a slight degree of paralysis of the lid, and is always a very formidable symptom.

There are occasional exceptions to this dropping of the upper eye-

lid, but it is generally present: and the patient, if in pain, ever and anon knits his eyebrows. Observe the child when asleep, and you will see that the eyelids are not quite closed.

4. The lucid cornea is more glassy or glairy than natural.

This is especially the case in the first stage, and even during greater part of the second stage the eye is more splendid than natural.

A little before death, however, the cornea is very often covered with a thin film. This splendid, or glassy, or glairy appearance of the cornea depends on the supply of blood from the ophthalmic artery, which is a branch of the internal carotid artery.

These states of the eye deserve very careful attention, as they are very important with respect to the diagnosis. Indeed, I dare venture in any case to say whether or not the brain and its membranes be inflamed, by merely taking into account these appearances of the eye.

5. The pupil is contracted, variable, or dilated.

In the first stage of the inflammation the pupil is either smaller than natural, like a pin's point, or alternately contracts and dilates with very great rapidity.

In the last stage of the inflammation, especially when it has wound up in effusion, the pupil is dilated, and is at last insensible to the stimulus of light. Indeed, one of the most common indications of effusion into the ventricles is a permanent dilatation, and, at last, immobility, of the pupil.

Sometimes the pupil is drawn from the centre of the eye, and in the last stage of the inflammation there is generally more or less squinting.

6. The conjunctiva is generally streaked with blood.

The red blood in its vessels gives the conjunctiva a sort of ferrety appearance.

There are exceptions to this circumstance, especially when the brain alone is acutely or sub-acutely inflamed; and in the insidious inflammation of the brain and its membranes which take place in children. In these cases the appearance of the conjunctiva often remains blanched.

There is generally in the first stage—

7. Intolerance of light or of noise, or both.

This is the case even in infants, who will become fretful or restless on the admission of light, or when any noise is made about the crib or bed. And in adults the stimulus of either light or noise produces increase of pain in the head. The hearing is generally more acute

than natural in the first stage, and generally more dull than natural in the last stage. And the same is generally the case with all the senses.

Recollect that deafness in affections of the brain very often depends on the inflammation having extended from the mucous membrane of the throat along the eustachian tube into the lining membrane of the internal ear, so that if you break down the petrous portion of the temporal bone, you will frequently find the internal ear filled with a muco-purulent fluid, the product of inflammation, which has destroyed the lining membrane of the cavity, and thus produced deafness.

This circumstance was observed long ago by Morgagni, but it has been of late very much overlooked. It is a very common cause of the chronic deafness which occurs after inflammation of the fauces, and which is sometimes permanent.

8. The sense of touch is preternaturally acute in the first stage;—supposing the sense of touch to exist over the whole surface of the body.

This is very remarkable in children. A child under these circumstances very often lies in a state of apparent sleep in its crib or bed, or in the nurse's lap. If you approach the child it starts; you touch it and it screams. There is apparently an unusually acute degree of the sense of hearing, and a preternatural sensibility of the eye to light, and of the surface to any stimulants; and yet with this the child appears at first heavy or insensible.

Whenever you are called to an infant lying in this state of apparent insensibility or heaviness, with an unusual sensibility of the eye, the ear, and the surface, you may suspect that the brain or its membranes are inflamed; and investigate the case accordingly.

In acute and sub-acute inflammation of the brain and its membranes there is in adults—

9. Wakefulness in the first, and heaviness in the last, stage.

Heaviness sometimes occurs mixed up with fretfulness in children. In adults the heaviness at last amounts to stupor. In the first stage there is more watchfulness when the membranes of the brain are inflamed than when the substance of the brain is inflamed. On the contrary, there is more heaviness when the substance of the brain alone, than when the membranes alone, are inflamed. Heaviness is common to both in the last stage; that is, whether the substance of the brain alone, or the membranes alone, be inflamed. A combination of heaviness and fretfulness is a very suspicious circumstance.

You should attend to the heaviness and sleepiness which exist, especially in children.

You will find in children that the time of sleeping is changed. If the child be well it lies in an easy position, goes to sleep, and awakes nearly at a certain time, and the breathing is free; but if the brain be inflamed the child lies in an uneasy or awkward position, its sleep is disturbed and of uncertain duration, and the breathing is oppressed.

You will see perhaps a blackness under the eyes, and you will observe also that the countenance undergoes a change of expression, which it is impossible to describe in words, or to analyze. Mothers often observe this, and are alarmed at it. If the mother be a sensible woman she will be sure not to disregard this, but if she be a novel and romance-reading woman she will most likely not observe it.

Sometimes there are sudden changes of countenance.

You will observe that at one moment the face is flushed—a suffusion comes over it like a sunbeam across a flower; the next moment the face will become pallid and blanched. This change is very remarkable.

The sleep is almost always disturbed, and the patient moans or starts. This and delirium are most common towards the evening, and in the morning the patient is somewhat recovered.

One of the most striking signs of this inflammation is that the child starts from its sleep, with a peculiarly alarmed expression of the countenance; and whenever you observe this, and that the alarmed expression continues, be upon your guard; for this is one of the most common attendants upon inflammation of the brain and its membranes in infancy.

The brain is the instrument through which the mind operates; and when the brain and its membranes are acutely or sub-acutely inflamed—

The intellectual faculties are more or less disturbed.

The disturbance in the slighter examples is—

1st. Incompetency.

It is now about seven years since I had an attack of inflammation of the brain, which crept on insidiously for several days, and at length became excessively acute. It attacked me suddenly in the street, so that I had great difficulty in recollecting what I was about. At length I managed to get home, and found myself extremely ill. Reflecting that my life was of great consequence to my family, and being a stranger in London, knowing only two or three individuals, I reviewed

my own case to dictate as far as possible the treatment. This was a most laborious process, and it was a long time before I could draw any inference from the existing circumstances. At last, however, I was satisfied that I laboured under an attack of acute inflammation of the brain. I had not the power as it were of reflecting, or at least only to a very limited extent, and it was only by hard and repeated efforts that I could draw any correct conclusions.

This is the first state of disturbance of the intellectual faculties which attends inflammation of the brain. The next is a degree of—

2d. Reverie, which is only occasional, and occurs most commonly about the hour of twilight. These reveries sometimes refer to living objects. The patient fancies he sees persons whom no one in the room but himself sees, and gives correct descriptions of persons who are perhaps still living, and others who have long paid the debt of nature, and are mouldering in their graves. These reveries sometimes excite so much terror as to occasion death. The descriptions which patients in such a state give of things and persons are particularly accurate in many instances, so as almost to realize the picture drawn by the poet:

> "They rise in dim succession led,
> The dark the faithless, and the dead,
> With hearts as light and brow as gay
> As if they parted yesterday."

I had this kind of reverie towards twilight, and fancied that I saw crowds of people walking about in all directions. Their faces were all strange to me except one, which was that of an officer, a gentleman in the country, who had a nose as long as that of Sterne's soldier, and by the size of his nose I knew him.

The next slighter kind of delirium is that which occurs only in the evening, being retained through the night, and leaves the patient in the morning.

These then are not dangerous symptoms if the case be properly managed.

3d. Permanent Delirium, however, is always a very serious thing.

But recollect this: systematic writers say that delirium attends inflammation of the brain from the beginning. This is not the case, for delirium seldom occurs in this country before the second, third, or fourth day of the attack; many in the most acute forms are very distinct for three or four days. Delirium generally does occur, however, in hot countries at the very onset of the attack.

When inflammation of the brain attends individuals labouring under any anxiety of mind, or individuals accustomed to take ardent spirits or strong malt liquor, then, even in this country, delirium may occur at the onset. It is very liable at all events to set in early, and these cases will probably terminate fatally.

No individual from a brewer's was brought into the Fever Hospital with inflammation of the brain without delirium. In these cases it always became necessary, on account of the furious delirium, to make use of the strait-waistcoat.

The reason of the delirium occurring in those persons was the large quantity of strong malt liquor which they were accustomed to drink.

The delirium is of various kinds. Sometimes it is general incoherency. Sometimes it turns on particular subjects, as the multiplication table in boys, and various kinds of business in men.

You must not, however, be guided by any single symptom; for in the next lecture I shall show you that delirium occurs in other affections besides inflammation of the brain. It occurs, for instance, in hysteria; very often in that affection of drunkards which has been called delirium tremens; sometimes from the use of mercury; sometimes from other poisons. Shakspeare, who has made many beautiful allusions to the subject of physic, illustrates this subject very well.

The Prince Henry having seen King John surrounded by his attendants, vainly endeavouring to relieve the sufferings occasioned by poison, exclaims—

> "It is too late; the life of all his blood
> Is touch'd corruptibly; and his pure brain
> (Which some suppose the soul's frail dwelling-house,)
> Doth, by the idle comments that it makes,
> Foretel the ending of mortality."

Delirium sometimes also arises from perfect exhaustion. Lord Byron has made an allusion to this in his beautiful poem of "Childe Harold," in which he describes the Gladiator as having fallen amid the inhuman but exulting shouts of the Roman people:—

> "He heard it, but he heeded not. His eyes
> Were with his heart, and that was far away.
> He reck'd not of the life he lost, nor prize;
> But where his rude hut by the Danube lay,
> There were his young barbarians all at play;
> There was their Dacian mother, he their sire
> Butcher'd to make a Roman holiday."

These, then, are remarkable facts—facts which are valuable to the medical philosopher; for if he relied upon one symptom he might be most egregiously mistaken. In most of the complaints of infancy you must investigate the child's character; for children have a species of delirium which is very obvious to a minute observer. You must ascertain the character of the infant, and investigate its habits and affections for persons and things; and you will invariably find some great change in them when the brain is inflamed. The child takes no notice of persons to whom it was previously attached—of its parents, brothers, sisters, or of the nurse of whom it was very fond.

One very curious thing is a sort of fearfulness and dread of falling; so that you observe an infant clinging suddenly to the nurse, as if afraid of falling from the lap. You will find with this all those changes in the eye which I have mentioned. The eye of an infant is as bright as a bird's eye, and far more beautiful; and the mysterious intercourse which naturally exists between its eye and that of its mother or nurse will be lost in this case. The infant in health watches the eye of the mother or nurse, so that there is a remarkable and mystical intercourse between eye and eye—between affection and affection—which, when the brain is inflamed, is almost invariably lost. There is generally too in infants some enlargement about the veins of the forehead; and when the brain is very much inflamed, the fontanelles often become distended; and this is always an exceedingly dangerous symptom.

As to the fretfulness and uneasiness in infants, you must investigate them very carefully, recollecting that these symptoms sometimes occur in catarrh. But if you be minute in your observations you will find that they are only occasional in catarrh, but in inflammation of the brain they are more permanent and have not the same variable character as in catarrh.

11. The carotid arteries throb more evidently than natural.

If you expose the neck you will observe that the carotid arteries distinctly throb more violently than natural, and more strongly than other arteries, unless the breathing is affected. This arises from the accumulation to heat about the neck and face, and also from the interruption to the free transmission of the blood through the capillary vessels. I say nothing of the increased action of the arteries; for to call it so is an abuse of language. The arteries act on the blood, not from any increased action, but from an increase of caloric and from the interruption to the circulation of the capillary vessels; and this is the cause of the increased volume of the arteries.

Not only the carotid arteries, but their branches, especially the temporal arteries, shut more violently than natural.

12. The neck, face, and head, are sensibly hotter than other parts of the body.

The hands also are hot; and when this is the case in infants there is always something wrong: the hands of an infant in health are cool. The feet are often very cold.

13. The patient now and then takes a deep inspiration, and sighs.

This is one of the most certain and remarkable indications of acute and sub-acute inflammation of the brain and its membranes in children and adults.

The respiration has a connexion with the pulse, respiration being carried on eighteen or twenty times while the pulse beats seventy times in a minute. In the first stage the respiration is invariably quicker than natural; and if you stand over the patient you will observe that the respiration for a short time is hurried, and then there is a pause, which is usually followed by a deep and anxious sigh. This symptom is scarcely ever absent.

In the last stage the patient breathes perhaps only twelve times in a minute; and when you see this the case look for the cause of it either about the head, about the heart, or about the lungs.

14. The patient cannot hold the head up so well as in health.

The patient, if he be an adult, staggers as if intoxicated in attempting to reach a night chair, and is fain to lay his head upon the pillow; if an infant, upon the nurse's lap. As the disease advances there is a tremor about the hands, which become completely relaxed, and the countenance sunk.

In infants you generally find that in these cases the head is drawn more or less forcibly backwards. This is always a suspicious circumstance if it be contrary to the custom of the child at other times; for you must recollect that this position may be habitual to the infant when in health.

15. The speech is apt to be affected, especially in the last stage.

The speech is always affected in the last stage, and becomes an indistinct mumbling. Sometimes even in the early stage of the inflammation the speech of children is affected. A child, for example, is unable to pronounce a certain letter distinctly. This is invariably an announcement of something serious in the head.

If you find a child, three or four years of age perhaps, suddenly stammering, unable to pronounce a letter or a word so well as it had formerly done, you should investigate the case very minutely;

for this forebodes a violent attack of inflammation of the brain with convulsions.

Another circumstance which you may often observe in children in these cases is the conical hand, which in infants is almost invariably an indication of some affection of the head, most frequently of acute or sub-acute inflammation of the brain and its membranes. The child sometimes has a tendency to put the hands to its head, tosses them to and fro, or lays them torpidly by the side.

16. The stomach is irritable, or the bowels are torpid, or both.

You will have vomiting, and the bowels so torpid that you cannot move them by strong cathartic medicines, even in those cases where the stomach is not irritable and will retain such medicines. As vomiting is only a symptom, and not a disease, you should refer it if possible to its true cause: it is often present, but sometimes it is absent, in inflammation of the brain.

A child if over-fed throws up part of its food without any exertion, and this by nurses is called posseting. It differs from vomiting.

In the first stage the bowels are occasionally lax, and this depends on the retention of scybala in the colon, or inflammation of the mucous membrane of the large intestines.

You must be very cautious respecting vomiting when it comes in infants, for it is sometimes the first indication of inflammation of the brain in infants, and also in adults, especially after blows on the head which at the time appear trifling.

I have frequently seen inflammation of the brain and its membranes occurring in an adult in a week or ten days after a blow on the head, and the first symptom of this acute or sub-acute attack has been a sudden fit of vomiting.

The most common effect, however, of blows is chronic inflammation. If, however, an individual have received a blow on the head, it will be proper to abstract blood after the first shock, to keep the bowels open, and to enjoin an abstinent diet for two or three months afterwards. In this way you will often prevent the occurrence of very great mischief in the head.

I have seen several instances of fatal disorganization of the brain and its membranes from blows, the consequences of which have been disregarded for weeks and months.

These indications, then, of acute and sub-acute inflammation of the brain and its membranes will serve to guide you to the formation of accurate opinions in any individual case. Most of these symptoms will

be present, and if you investigate them carefully you will never be mistaken as to the accuracy of your diagnosis.

17. Fever is also present; and if the inflammation be acute the fever is ardent, the pulse quick, and the skin hot and drier than natural. There is, however, one exception to this. Sometimes the substance of the brain is extensively and acutely inflamed, and the patient lies in a state of oppression with a surface scarcely hotter than natural and a pulse scarcely quicker than natural, but with oppressed breathing, and with an occasional deep inspiration followed by a sigh. When you see this combination of symptoms you may always suspect that the patient labours under intense inflammation of the substance of the brain.

With respect to the pulse, when the fever is openly developed it is almost invariably stronger and quicker than natural, ranging in an adult from one hundred to one hundred and forty pulsations in a minute, and hard.

18. The tongue is almost invariably furred.

If the substance of the brain alone be inflamed, the tongue has a velvetty appearance and is not much furred, unless it happens that the stomach, liver, and bowels, be at the same time disturbed. In the first stage the tongue is of a dirty white colour, becomes more and more foul as the disease advances, and is often dry.

It is obvious, then, from what I have said, that there are two stages of acute and sub-acute inflammation of the brain and its membranes; and I may now draw your attention to the circumstances which characterize each of these two stages.

The following are the symptoms which are most constant, in children and adults, in acute and sub-acute inflammation of the brain and its membranes in—

THE FIRST STAGE.

1. Some pain, throbbing, or other uneasiness in the head.

It is sometimes a sensation of tightness and fulness, as if the contents of the head were too large for the cranium.

2. A combined expression of physical brightness and intellectual dulness in the eye, and the conjunctiva streaked with red lines.

3. Some degree of preternatural dropping of both the upper eyelids over the globes.

4. Contraction, or alternate contractions and dilatations (rapidly made) of the pupils.

5. Some intolerance of light, noise, or touch, or all.

6. Either watchfulness, or heaviness attended by fretfulness.

7. Inaptitude, confusion, reverie, or delirium.

8. Unusual throbbing of the carotid and temporal arteries.

9. Concentration of the heat about the hairy scalp, face, and neck.

10. An occasional deep-drawn breath, followed by a sigh.

11. An irritable state of the stomach, or a torpid state of the bowels, or both.

In the last stage the irritable state of the stomach almost invariably gives way: the vomiting ceases, but the bowels are still torpid.

When acute and sub-acute inflammation of the brain and its membranes, in children and adults, is winding up, especially towards a fatal termination, the following symptoms arise and indicate—

THE SECOND STAGE.

1. A diminution of sensibility.

The second stage commences by the patient becoming heavy, as if he were asleep. He becomes more and more negligent, and at length totally indifferent to surrounding objects and circumstances, till at last the diminished state of the sensibility terminates in a state of complete stupor, and the patient dies under a slowly superinduced state of apoplexy.

The stupor increases from the commencement to the close of the second stage, when the patient dies perfectly insensible.

Sometimes the patient sinks into a low sort of delirium, and mutters of those circumstances which have most interested him in health. Dr. A—, the head master of ——, thought he was in school hearing his scholars their lessons. After muttering some time he suddenly stopped, and said, "It is getting dark; you may go."

I saw a very affecting case of this kind in a woman who, having inflammation of the brain, was separated from the infant which she suckled. She gathered the clothes together and fondled them as she would her child.

Some cases are laughably ridiculous. One is on record of a magistrates' clerk, who was continually saying, "So help you, God. Kiss the book. Give me a shilling."

2. The pupils are generally first dilated and then immoveable.

This is the case if effusion have taken place into the ventricles; but when no effusion occurs the pupils very often continue contracted to the last.

3. The patient has either a vacant stare or strabismus.

Some individuals have naturally a vacant stare, and then it is not of much importance. So also some individuals naturally squint.

There is commonly—

4. Slight paralysis of one upper eyelid, especially in children.

5. One side of the body is generally moved more than the other.

This is quite manifest if you stand at the bedside of the patient, and see how he moves in bed.

And sometimes there is a peculiar swing of the arm. A child very often has so much sensibility remaining that if you put any medicine to its mouth it will try to put it away with the hand. In doing this, as soon as the child's hand reaches the lip, it seems as if it could be raised no higher, and by a singular movement the palm is turned outward and downward, the thumb resting on the chin. This is a very sure indication of something wrong in the head.

6. The pulse often becomes slower, and then quicker again.

While, however, the pulse becomes slower, all the other symptoms are aggravated; and towards the close the pulse often becomes so quick that you cannot count it at all, especially in children.

Goliss has committed a great error in saying, that in the first stage of inflammation of the brain the pulse is not quicker than natural. He remarks, that "in some cases it may occur that the pulse is not quickened in the first stage." This may have occurred in one or two cases; but it is very uncommon. Never regard the assertions of any man further than they are borne out by facts. The pulse generally is quicker than natural in the first stage, becomes slower in the second stage, and is quick again before death.

7. The speech becomes more obviously affected.

The patient mumbles and moans, and at last becomes apparently idiotic.

There are generally—

8. Subsultus tendinum, with difficulty of deglutition.

The respiration is affected, and there is a glutting noise in the throat when the patient swallows any fluid, from its resting in the fauces, and going down with difficulty. The respiration becomes slower, the sighs are deeper and deeper, and are frequently followed by a peevish scream.

9. The patient lies in a more sunk position on his back.

There is relaxation of the sphincter ani and of the sphincter vesicæ. And to these I might add that—

10. The brain becomes more and more oppressed, as the disease advances.

After this occurs what old nurses will know under the name of "lighting before death." A marked change takes place; the patient

becomes sensible, and although previously quite blind, now sees well; but he mostly sinks rapidly after this. Sometimes there are—

11. Convulsions; which, in children, occasionally occur at the onset of the inflammation; you must therefore look to the other symptoms which exist in concurrence with the convulsions. These convulsions often come on with very great rapidity in infants, and suddenly destroy life.

Acute is distinguished from sub-acute inflammation of the brain by two circumstances—the fever is higher, and the local excitement is greater. It runs a more rapid course, and the symptoms are more strongly marked, than in the sub-acute inflammation. Acute inflammation of the brain, if allowed to run its natural course, would terminate in from four to ten days. Inflammation of the brain in children frequently, however, has a more protracted course than in adults; generally it goes on for three weeks. In adults it more frequently terminates without effusion.

The mode in which acute or sub-acute inflammation of the brain and its membranes attacks different individuals is very various, and very important to be known.

It sometimes follows an external injury. I have mentioned a case of this kind in a previous lecture, and I may draw your attention to it again here. I mention it now to show the inseparable connexion that exists between phpsic and surgery.

I saw an individual who had an injury to the thumb. Gangrene took place in the thumb, and produced fever; and his brain, being predisposed, became inflamed in the progress of that fever.

I saw another case, which I may relate;—and I could mention a great many more similar cases.

A surgeon bled a man at the bend of the arm, and after the operation he applied to the orifice a coarse cloth, and bound over it a narrow tape, and in this way the wound was irritated. It happened that the patient was in a bad state of health: erisypelas affected the arm; the heart's action and the animal heat became excited, and the brain became so intensely inflamed, that he sunk with great rapidity.

I am confident that no individual ever dies after an operation, when excitement has taken place, in whom death is not connected with some internal inflammation.

Nothing is more absurd than the separation which exists between physic and surgery, a separation which is countenanced by the College of Surgeons. It is a source of great mischief to the public, and therefore it is my duty to protest against it. The time, however, is, I trust,

approaching, when the legislature will interfere between the public and those corporate bodies, that enact laws for their own selfish purposes and for the oppression of others. In such corporations some important changes must soon take place, when the public are sufficiently made aware of the circumstances connected with their rules.

Inflammation of the brain sometimes follows after inflammation in some other parts.

It is a very common circumstance to find inflammation of the brain existing simultaneously with inflammation of the bronchial lining, especially in children.

Inflammation of the dura mater sometimes occurs suddenly in individuals labouring under rheumatism.

Both in children and in adults inflammation of the brain will frequently follow some inflammation or excitement of the mucous membrane of the intestinal canal. This is very common indeed in children; and in such cases of inflammation in the mucous lining of the bowels, you should be on your guard with respect to the brain, which is, as I have before explained, in all children predisposed to inflammation. On this account inflammation of the brain often follows specific affections in children, as catarrh, measles, small-pox, hooping-cough, &c. For the same reason, inflammation of the brain may follow the exhibition of any indigestible food which irritates the intestinal canal.

Pressure on the abdominal aorta will produce affections of the head; and they will also often arise from other impediments to the circulation of the blood. A child has catarrh, and the head, in the first instance, is mostly free from disease; the respiration becomes increased, and the brain heavy, and it dies; and, on examining the head, an effusion of serum is found in the ventricles of the brain. Local irritation of the lungs will increase the heart's action; as may be known by feeling the pulse during a fit of coughing. Difficulty of respiration also retards the transmission of blood from the right ventricle of the heart, so that there is an impediment to the return of venous blood from the head, which may lead to effusion in the head.

The inflammation of the brain is either acute or sub-acute; and it generally happens that the heat is fully developed on the surface of the body, except about the feet, and the pulse is totally expanded, with the single exception I have mentioned. When the patient is very much oppressed, with a soft pulse very little quicker than natural, with a heat of the surface very little higher than natural, with a blanched appearance of the eye, and a glassiness of the lucid cornea, it is the most dangerous form of inflammation of the brain; for in these cases the

degree of the fever does not correspond with the intensity of the inflammation.

You have most perfect examples of what I call passive inflammation of the brain in the last stage of typhus fever, and in all those fevers which are called low, malignant, or typhoid. You will see, for example, a patient with a feeble pulse, with a low degree of heat upon the surface, dying with intense inflammation of the brain and its membranes, of the bronchial lining, and of the mucous membrane of the intestines. The value of the power of distinguishing this passive form of inflammation of the brain, with a soft compressible pulse, a perfectly calm respiration, and a low heat upon the surface, is, that if you were to treat it as you would the active form of inflammation, the patients would inevitably die; while such persons will mostly recover if they be mildly treated.

The last stage of inflammation of the brain is combined with one of two states—simply with over-distension of the arteries, or with effusion. If there be effusion in the head of a child it cannot recover; but from over-distension it may, and thus may be restored from apparent symptoms of hydrocephalus internus.

With respect to effusion into the ventricles of the brain, at the base of the brain, or between the membranes of the brain, or, as it is called—

HYDROCEPHALUS INTERNUS,

or water in the head; it arises from various sources. It is not a disease, but an effect produced by three different conditions brought about by three different remote occasions.

The *first* of these conditions is what I call—

VENOUS CONGESTION.

And the probability is, that the effusion of fluid then arises from an impediment to the return of venous blood. The internal carotid arteries are excessively gorged with blood; effusion takes place into the ventricles; and the patient dies, with a feeble pulse and a perfectly cold skin.

I recollect the case of a man whom I saw nearly dying from congestion of the brain, produced by the impediment to the return of venous blood by a ligature round the neck. I was coming along Great Surrey Street, and saw a coach coming very fast. The horses had run away, and were at a full gallop. I followed as fast as I could, seeing that the coachman had become entangled with the harness, having fallen from the box. A man with great presence of mind and firmness placed

himself in the road, and at the risk of his life seized one of the horses, and stopped the coach. I came up almost immediately, and found the coachman with his face perfectly livid. A mob immediately collected around him; and no form of government is so bad as that to deal with. I therefore explained my profession, and my directions were then obeyed. The man's cravat was drawn tightly about his neck, and this being removed, I gave him some stimulus, and found a feeble fluttering in the region of the heart and a faint motion of the chest. I gave him a little brandy; and when I left him he was nearly well. In this case the tight ligature round the neck prevented the free return of venous blood, but effusion had not taken place; and probably this is what occurs in many cases of congestive fever.

Some individuals have thought that the enlargement of the glands of the neck produces effusion by preventing the return of the venous blood—for instance, the enlargement of the bronchial glands. This may possibly be the case; but I have seen these glands enlarged a great many times without producing any effusion. Effusion in the head sometimes takes place apparently from affections of the liver. There is a connexion between the liver and the brain for which I am unable to account. One patient, after a fracture of the skull from a blow, becomes jaundiced; another knows that the bile flows too copiously, or not sufficiently freely, if he feel pain across his forehead.

Secondly: One of the most common causes of effusion is—

INFLAMMATION.

Effusion of fluid, you will remember, is one of the terminations or immediate effects of inflammation.

The *third* cause of effusion is some—

ORGANIC DISEASE,

such as tumours or tubercles within the brain or about the membranes. I have occasionally met with tubercles in the brain or in the choroid plexus connected with effusion. I have found effusion also in connexion with tumours in the brain of old persons. These operate as interruptants to the circulation.

Two friends of mine in the country disagreed about a case, one saying it was typhus fever, the other pronouncing it hydrocephalus internus. Either might with propriety have confessed, "Brother, brother, we are both in the wrong;" for the fact is, that typhus fever is not incompatible with what is called hydrocephalus internus.

LECTURE XX.

COMMON INFLAMMATORY FEVER.

DELIRIUM.—SYMPTOMS, DIAGNOSIS, AND MORBID ANATOMY OF THE BRAIN FEVER OF DRUNKENNESS.—DIAGNOSIS OF INFLAMMATION OF THE BRAIN AND ITS MEMBRANES.—SYMPTOMS AND DIAGNOSIS OF INFLAMMATION OF THE SPINAL CORD AND ITS MEMBRANES.

I SHALL in this lecture mention the diagnosis of acute and sub-acute inflammation of the brain and its membranes, and of some affections which are liable to be mistaken for it; and shall describe the symptoms of the brain fever of drunkenness, and of inflammation of the spinal cord and its membranes.

There are several cases in which—

DELIRIUM

occurs, and therefore you must not infer that when it exists it is necessarily a symptom or a concomitant of inflammation of the brain.

1. *HYSTERIA*

is one of these complaints.

You would distinguish the delirium of hysteria from inflammation of the brain, by observing that the attack of hysteria comes on very suddenly, and its character, chameleon-like, is constantly changing. The patient, for example, is delirious for one moment, and the next moment sits with her eyes wide open and fixed on a point; then laughs; shortly afterwards lies torpid, as if asleep; then falls down apparently in a state of insensibility; then starts up and screams, and has an attack of choking; and winds up by crying. So that in the course of a few hours a remarkable variety of external characters occurs.

Fever is absent in hysteria while the delirium exists. In the delirium of inflammation of the brain, fever is present.

2. *MERCURY*

produces delirium in some individuals; and under two different states; for example—

1st. One individual shall take small doses of blue pill every night,

for a supposed (which by the way is far the more frequent case) or a real liver complaint, till the mouth becomes affected. It is then that it generally happens that in those individuals who have peculiarities the effects of mercury are most remarkably displayed. This individual will then become collapsed, with a cold skin, a feeble pulse, a weak respiration, and remarkably confused in his head. Called to such an individual, you will find him stretched out on his sofa or bed, with a cold and pale face, with a feeble respiration, with an idiotic expression of countenance, and wandering of the mind.

2d. Another individual at the same period, from the effects of mercury, will be delirious, and yet there will be symptoms different to those of the last case. You will be called, for example, to a patient in whom mercury has produced excitement. The skin will be hotter than natural,and the pulse quicker than natural; and then the patient generally has high delirium.

I have seen two gentlemen affected with this form of delirium; and in one it occurred with a state of collapse, in the other with a state of excitement. The former became excessively prostrate, with a blanched eye, with a dilated pupil, with an idiotic expression of the countenance, with a cold skin, with a feeble respiration, and with a fluttering pulse. The delirium was a sort of slow incompetency; so that if a question were put to the patient, he was a long time first in selecting and afterwards in delivering an answer.

The other gentleman whom I saw was a brother of a pupil of mine. He was in a state of excitement and animation, with a skin hotter than natural and a pulse quicker than natural, and constantly joking. If you see a patient delirious, always examine the gums, and endeavour to ascertain whether he has been taking any preparation of mercury, because you must regulate the treatment accordingly.

Sometimes the excitement thus produced passes on to inflammation of the brain, but generally it does not.

Nervousness is a frequent consequence of the exhibition of mercury. The patient often becomes remarkably sensible to impressions produced by surrounding objects and circumstances; often becomes desponding in his mind, and passes sleepless nights.

Patients often call on me in the morning in a state of nervousness or despondency; and, upon investigation of these cases, I generally find that the blue pill has been taken for some time. Mercury is exhibited quite at random; and for every so-called disorder of the liver, dyspepsia, disorder of the digestive organs, indigestion, &c., blue pill is given either twice or three times a-day, or in five grain doses every night.

The patient under this treatment often becomes nervous and emaciated, and recovers rapidly when the mercury is omitted.

Other poisons or medicines often affect the brain.

3. *OPIUM*

is one of these.

I have known very small doses of opium throw an individual into a state of complete delirium. It is important to ascertain the existence of such idiosyncrasies, that you may avoid the administration of such remedies, unless urged to it by some very powerful reason.

In the milder cases opium produces slight turgescence in the vessels of the brain; but sometimes it produces perfect inflammation of the brain. I have known this to be the case in several instances.

One rule which I advise you to adopt is this:—if possible to do no harm in your intercourse with families. I mention this, and would have you to recollect it, because there exists amongst medical men a general tendency to do too much. By far too much efficacy is attributed to physic, and by far too much importance attached to it; to the exclusion of principles dictated by common sense, such as the regulation of the diet and general management. A medical man should consider the immense responsibility of his situation, and should recollect that, in the present state of medical legislation, there is no education sanctioned by laws which at all fit him for the practice of his profession. He may have passed an examination at the College of Surgeons or at the College of Physicians; but I appeal to any honest man whether ninety-nine medical men of a hundred do not begin to practise their profession at the risk of the health and lives of those who employ them. This is the necessary consequence of the defective education which is sanctioned by colleges of physic and surgery in this country. A medical man should above all things endeavour to know himself. All his wisdom will centre in this. He must recollect that he is not an indifferent person, but that wherever he goes he influences the happiness of some and the health of others: he is either a blessing or a bane in every house which he enters; and he is bound not to take up certain prescribed forms which have been passively adopted from past ages, and are unthinkingly pursued in this, but to deliberate upon any opinion which may be offered to him before he receives it and acts upon it as truth.

To return from this digression:—

4. *ANTIMONY*

often produces delirium or death.

Antimony is so called because it slew certain monks, and so far not much can be raised in objection to it; indeed, if it should kill a few hundred more monks, there would perhaps be not much harm in that, because they are a useless body of men. But it is really quite an important matter to avoid doing harm to other individuals. Antimonial medicines are, I believe, far more destructive now than they were formerly. A man of a wise head and a good heart will avoid much of the folly that he sees in the world, and do all the good that he can. The evils inflicted by the indiscriminate use of antimony are far more extensive now than formerly; but they are not known. And why?—Because there are more doctors than formerly. Let us take an illustration. A man finds in his own home a train of affections and friendship which elsewhere he meets not with; and at a certain hour he shuts the gates against the business, the turmoils, and the vexations of the world, retiring as it were to a pleasant spot where troubles are excluded, and with the comfort and the happiness of which the splendours of the most magnificent palace are not to be compared. It happens that a child is attacked with hooping cough, but runs about, being in other respects perfectly well. A neighbouring practitioner is sent for. He prescribes tartrate of antimony, and sickens the child every four or six hours. It becomes pale and prostrate, and lies in its mother's lap. She watches over its increasing illness. The mucous membrane of the stomach becomes excited; general irritation takes place; the bowels and the brain become soon implicated in the affection; and in a fit of convulsions it dies. And then, for the first time, is the point brought home to its parents, that in the midst of life there is death; and thus care, like a serpent, enters into their house and spoils their earthly paradise!

This is an example of a few particulars of such dismal tragedies as I have witnessed again and again, with feelings of dissatisfaction and horror. It is, therefore, I assure you, a point of the utmost importance to be upon your guard against poisons under the name of medicines.

Mercury, opium, and antimony, are in reality poisons supplied by the apothecary, and are far too frequently prescribed. I have seen slight delirium again and again produced by antimonial preparations, given so as to excite the mucous membrane of the stomach and intestinal canal in very young children.

It is a most notorious fact that hooping-cough is far more fatal in London than in the country; and I believe that this arises from the very free use of antimonials in London. No man can investigate carefully and attentively the pathology of the mucous membrane of the

stomach and intestinal canal, without being convinced of the great importance of avoiding all those remote occasions which are likely to offend it.

Sometimes delirium will be produced by—

5. *EXTREME EXHAUSTION.*

An individual walks a long way in the sun, and at length becomes exhausted, confused, and drops down. In this state he will be found with a feeble pulse, a cold skin, and delirium. Sometimes what is called cholera morbus produces these symptoms, from exhaustion, and then it is best relieved by opium. When it arises from walking or other exercise on a hot day, the patient if put to bed will recover rapidly by the aid of a little brandy.

Delirium sometimes arises from long abstinence or fasting; and then sometimes it will be removed by the cautious exhibition of food. It is important to recollect that it also sometimes arises from an individual cramming himself with food after long abstinence. You may destroy a person's life very easily by allowing him after long fasting to take a large quantity of food at once. The change in these cases should always be made gradually.

Delirium attends mania, or—

6. *MADNESS.*

And how do you distinguish this from the delirium of inflammation of the brain?—The simple rule of diagnosis is, that in mania the heat of the surface and the frequency of the pulse are natural. On the contrary, in the delirium of inflammation of the brain fever is present. You find a patient with a cool skin and tranquil pulse labouring under delirium: this is mania: and this is the only fair ground of distinction. In the first instance mania generally sets in with inflammation of the brain. And the expression of the countenance under these two states is generally very different. In mania there is generally a peculiar side-look of suspicion; and, in fact, madmen are mostly filled with suspicion. The patient looks askance, and his manner is altogether altered.

These symptoms come on when, the inflammation of the brain having subsided, the patient should be getting well.

Another extremely important state to distinguish is the delirium which attends the

7. *BRAIN FEVER OF DRUNKENNESS.*

or what has been commonly known by the name of Delirium Tremens.

In this affection there is always delirium ; it is the most constant symptom. But there is not always tremor, and therefore the adjective, tremens, is improper. I shall therefore distinguish this affection by the designation of

THE BRAIN FEVER OF DRUNKENNESS.

In the North of England this affection is termed Brain Fever. Dr. Pearson, of Newcastle-upon-Tyne, first wrote upon it. I then published two papers on the same subject. After this Dr. Sutton wrote an excellent book, in which he gave it the name of delirium tremens.

It is very requisite to distinguish this affection from inflammation of the brain. The brain fever of drunkenness is, as far as I have observed (with an exception which I shall presently make), always arising from the inordinate use of ardent spirits, wine, or strong malt liquors. I have met with only one exception, and in that case it arose from the use of opium. My friend, Dr. Ayre, has seen several cases arising from lead. This fever is very often connected with mental anxiety, night-watching, or copious evacuation. I once saw a patient who at the onset had laboured under inflammation of the tonsils and adjacent mucous membrane, for which he he was bled, purged, and kept on a low diet; and in the state of exhaustion thus produced the attack of brain fever came on. In drunkards the brain fever generally comes on in the state of exhaustion from leaving off, either in part or entirely, the accustomed stimulus. In fact, to a confirmed drunkard, wine, spirits, and ale, are as food : he lives by a sort of suction. As we live on flesh and bread, so he lives by drink; and if you abstract his food you will very likely induce this peculiar condition of the nervous system. I have known the fumes of spirits produce this affection. I saw a case of brain fever once occur in an individual of remarkably temperate habits, but he had been for some days previous to the attack exposed to the fumes of ardent spirits, which affected him very much. He was at first exceedingly excited by them, and in the subsequent exhaustion the attack of brain fever came on.

A person having been much addicted to the use of considerable potations, omits his accustomed stimulus, and the approach of an attack of brain fever is almost invariably announced by the patient being remarkably irritable, with fretfulness of the mind, and mobility of the body. Watchfulness next occurs, and the patient takes little or no sleep. He has frightful dreams, sees remarkable sights, or hears extraordinary sounds. He then begins to fancy that some conspiracy is forming against him, entertains suspicions about certain persons or

things, and imagines that some mischief is intended towards him. Then he is perpetually busied about his affairs, and so on.

I saw a case of this kind last week, and I found the individual fitting out his gig for a journey which he fancied he must take.

A butcher who laboured under this affection to a slight extent had certain strange fancies about a cow which he kept for the use of his family, and he daily sent his customers to his wife for the milk; which circumstance first announced to her that he was out of health.

Some patients in this affection are very much alarmed, and fancy that a person in the next room is waiting to assassinate them.

An innkeeper laboured so strongly under this delirium that he would have jumped out of the window had he not been prevented, fearing that a person was in the next room intending to shoot him with a pistol.

Sometimes the delirium turns on some matter of business, such as settling of accounts, or telling of money.

I recollect I saw a pilot who imagined that he was engaged to pilot a vessel, and he would walk down to the pier for that purpose; which, though it was a considerable distance, I allowed him to do.

The patient generally is in a perpetual bustle; his hands are constantly full; in short he becomes a perfect man of business. The skin is damp and relaxed, and there is a variable active expression of the eye, and almost always tremor of the hands. The pulse is soft, compressible, and seldom above one hundred, except under great bodily exertions.

But, to be minute, the following are, numerically, the

SYMPTOMS OF THE BRAIN FEVER OF DRUNKENNESS.

If any of you be tired of my minuteness, and wish to practice medicine boldly, the best way is to carry a plaster about with you in your waistcoat pocket, and whenever a patient is complaining you have nothing to do, but, without asking any questions, to clap this plaster on the ailing part, and prescribe fried eggs and bacon.

Sangrado engaged to give Gil Blas the whole art and mystery of surgery in one lesson; and really if you do not attend to minutiæ the probability is that your practice, provided you use the plaster and prescription I have just mentioned, will be as simple and about as successful as that of the celebrated Sangrado. Being, however, fully convinced of the advantage of being minute, I must draw your attention to the following particulars as the most characteristic of the brain fever of drunkenness.

1. This affection comes on in a state of weakness, and almost always after hard drinking.

Indeed, it occurs always after the excessive use of spirits, &c., as far as my observations have gone, with only the one exception which I have mentioned.

2. It is preceded and attended by irritability of mind and mobility of body.

There is a remarkable sensibility of the body, an incessant tendency to move from one place to another; and the patient is prone to be irritated by very slight circumstances.

3. It is preceded and attended by watchfulness during the day and night,—

Compared with the natural habits as to the sleep.

4. An incessantly active bustling delirium supervenes, when the disease is fully developed.

And the illusions which attend this delirium, however vague and unfounded, operate on the patient with all the force of realities till he becomes furiously mad. He has extraordinary activity of mind, and is busied in enumerating his misfortunes or in counting his wealth.

5. The countenance is quick, variable, and wild at times.

No single description will apply to the expression of the countenance in these cases; for it varies with the predominant impression on the mind of the individual.

6. The skin is damp and relaxed, especially on any exertion.

7. The hands are generally tremulous.

I have seen some cases in which the tremor was entirely absent. When it exists it is most obvious when the patient's hand is held out. It is like the tremor which you may see in the hands of a drunkard in the morning before taking his accustomed dram.

I used to dine with an individual in the north of England whose hand was so tremulous that he could scarcely get the glass to his mouth, and notwithstanding the expedient of taking both hands he would generally spill some of his wine. But after he had taken five or six glasses his hand became perfectly steady.

8. The patient would be in constant motion.

And he generally is so unless he is tied down. There is activity, not only of the mind, but of the body also. The whole mind is put constantly in action, and the whole body in motion. The individual is perpetually changing his place, and displays considerable power both of body and mind.

9. The face is pale, and the conjunctiva generally blanched.

10. The surface is rarely hotter than natural.

It is almost always damp.

11. The tongue is but slightly furred and very moist.

12. The appetite is good.

The patient will take what is offered him; except in those cases where he labours under an illusion, and suspects that some person is about to poison him; for then he will often refuse every thing.

13. The pulse is soft and compressible.

It is soft and compressible, I mean, compared with the pulse which occurs in inflammation of the brain and its membranes. It is seldom above one hundred, if the individual be quiet; but if he use much exertion it is sometimes excessively rapid and small. In some cases there are convulsions; sometimes they are very dangerous, but often they are not fatal if the patient be propely managed.

DIAGNOSIS OF THE BRAIN FEVER OF DRUNKENNESS.

I. FROM INFLAMMATION OF THE BRAIN AND ITS MEMBRANES.

If you remember, then, these combined symptoms, you will, in general, easily distinguish this affection from inflammation of the brain. Attend particularly to the contrast in the following points under the two different affections.

1. In inflammation of the brain and its membranes there is a peculiar mixed expression of the eye, made up of a combination of physical brightness with intellectual dulness.

In the brain fever of drunkenness the expression of the eye is generally remarkably vivid and intelligent, except when the patient labours under an apprehension of the approach of some great mischief to himself.

In inflammation of the brain the look is wearied, anxious, and oppressed, except when there is high delirium, and then it is wild.

In brain fever the look is rolling and restless, exceedingly variable according to the present impression.

2. In inflammation of the brain there is dropping of one or both eyelids; in the first stage the pupil is contracted; and in the last stage, if effusion have taken place, it is dilated.

But in the brain fever the pupil is not contracted; nor is it dilated except under great exertion.

3. In inflammation of the brain the conjunctiva is ferrety.

In the brain fever the conjunctiva is blanched.

4. In inflammation of the brain the heat is very high on the surface, especially over the head, neck, and face.

This is not the case in brain fever; in which the skin is sometimes warm, but often cool and even chilly, from the excessive perspiration and consequent evaporation from the surface of the body. Sometimes, however, the surface is hotter than natural from great exertion.

5. In brain fever, too, the pulse continues remarkably soft in comparison with the pulse which occurs in inflammation of the brain; and is slow except when the patient makes violent exertions.

6. The skin is remarkably relaxed in brain fever; but it is not so in inflammation of the brain.

7. In brain fever the hands are generally tremulous from the commencement.

In inflammation of the brain the hands are tremulous only in the last stage.

8. In inflammation of the brain the strength fails from the beginning, and the patient staggers when he attempts to walk.

But in brain fever at the beginning, and during the progress, the patient manifests very great muscular power. He looks, speaks, moves, and does every thing with very great rapidity and energy. With respect to this, however, exhaustion often comes on very rapidly after great exertion, and the patient falls down from fatigue.

9. In inflammation of the brain the appetite is prostrate.

In brain fever the appetite is good, except when the patient refuses food from a suspicion of an intention to poison him.

10. Brain fever is mostly the consequence of hard drinking.

Inflammation of the brain can, on the contrary, generally be referred to other remote occasions.

11. In brain fever the patient is first irritable, then watchful, then fanciful, and, lastly, furiously mad.

In inflammation of the brain the patient is first complaining of pain in the head, with general debility of mind and body.

12. In brain fever the patient is constantly changing his place. He is in the state called jactitation.

In inflammation of the brain he lies on his back, with but little muscular power, except in occasional fits of delirium, in which his strength is remarkable.

13. In brain fever the patient does not often complain of pain in the head; but in inflammation of the brain he almost always complains of acute pain in the first stage.

14. Brain fever comes on and goes off suddenly; but inflammation of the brain comes on and goes off for the most part gradually, though to this there are some exceptions, especially in hot climates.

II. FROM MADNESS.

It is important to distinguish the brain fever of drunkards from madness, because, as far as I have observed, the strait-waistcoat is fatal in almost all cases of brain fever where the patient struggles violently, which, by the way, he generally does.

Suppose the patient in brain fever has an illusion upon his mind that some person is waiting to assassinate him; if he be confined he will struggle with very great violence to rescue himself from the supposed danger; and in one of these struggles he will, in all probability, die.

Now as to the distinction between the brain fever of drunkenness and madness, there is none morally speaking. The patient in brain fever labours under an illusion, and is not morally responsible for his actions.

Again, it is of consequence to distinguish these two affections; for if patients be largely or repeatedly bled in brain fever, they generally die. Almost all the individuals I have heard of who have been especially and repeatedly bled have died.

These little things are very important in pathology and practice. On them we found our opinions, and on our opinions we found our practice; and in order that you may be distinct in your opinions and successful in your practice, you must investigate the symptoms of all cases very minutely, and contrast them with the symptoms of other affections with which they are liable to be confounded.

The patient in the brain fever of drunkenness generally dies in convulsions; and most frequently after some violent exertion both of mind and body. The individual is put into a state of alarm; he is perhaps subjected to some restraint; he struggles with very great violence; and suddenly sinking down exhausted, becomes convulsed, and dies.

It is of very great importance to avoid putting the patient into a passion. It is better not to confine him, but to watch and take great care of him.

MORBID ANATOMY OF THE BRAIN FEVER OF DRUNKENNESS.

When, however, the patient does die, you generally, upon examination of the body, find very little morbid anatomy to account for his death. Turgescence of the veins, and slight preternatural fulness of the arteries of the pia mater and arachnoid, are most frequently found; and of these there are evidences during life. Effusion of serum into the ventricles of the brain, or between the pia mater and the tunica arachnoides, will also be seen, and mostly congestion in the liver.

The appearances on dissection, then, do not explain the phenomena of this affection; and, for want of a better name, we call it a nervous affection. And what is a nervous affection?—We know nothing at all about it, and the name amounts to a confession of our ignorance. It is one of those names, the meaning of which is sometimes, nay, almost always, very hypothetical; hypothetical, because the condition of the system under which these phenomena occur, with the effects of remedies under these conditions, are not noticed. Names of this kind, in many instances, are but mere assumptions. And we need not be surprised, nor need it excite our wonder, that a few men should in their imaginations frame fables and fallacies to account for such conditions. But it really is very remarkable that so many individuals should believe them so implicitly: that is the wonder! It is sufficient almost to make us believe that one of Burns's "Twa Dogs," was right when he said—

> "But human bodies are sic fools,
> For a' their colleges and schools!"

It has been said that old moons are clipped up to make stars, which in progress of time will be so numerous, that gas-light will be unnecessary. One cannot help laughing at such nonsense as this; but in physic there are some conjectures afloat which are quite as vague. Men will follow similar absurd notions through thick and thin, and stick at nothing in the way of explanation. But you must form your own opinions and practice from close observation, taking my remarks merely as materials for thinking.

INFLAMMATION OF THE SPINAL CORD AND ITS MEMBRANES.

This arises as any other inflammation does; sometimes from injuries received over the spine; and very often from peculiar remote occasions. One of the most frequent peculiar poisons producing this inflammation is, perhaps, malaria or marsh effluvia. The spinal cord and its membranes are generally inflamed together; and when acute or sub-acute, this is indicated by five

SYMPTOMS.

When it occurs on a sudden the first symptom is—

1. Pain in the cervical, dorsal, or lumbar portion of the spinal column.

The pain is generally increased by pressure with the fingers, or by bending the body backward or forward, or by twisting the body from side to side.

2. Pain, numbness, or tingling, in the upper or lower extremities, or in the trunk.

If the cervical portion of the spinal cord and its membranes be inflamed, the pain, numbness, or tingling, will be in the upper extremities. If the dorsal portion be inflamed, the same symptoms will be in the upper extremities, and generally in the trunk of the body. And if the lumbar portion be inflamed, these uneasy sensations will be found in the lower extremities. Sometimes the inflammation extends throughout the three portions, and then you will have the pain, numbness, or tingling, extensive in proportion.

3. More or less diminution in the power of moving certain parts.

The patient, for example, cannot grasp any thing in his hand so firmly as before.

4. More or less obtuseness in the sense of touch.

This is especially displayed in the fingers and toes, when the cervical or the lumbar portions are respectively inflamed.

5. More or less tenderness on the surface of the body.

This is sometimes over the whole body, but sometimes confined to particular parts.

In this, as in other inflammations of an acute or sub-acute form, the heat is higher and the pulse quicker than natural. Sometimes the respiration is very much disturbed. Sometimes the stomach is a good deal disturbed, and especially there is a loss of appetite. Sometimes the bowels are very torpid. Occasionally the urine is retained too long, or is constantly dribbling away, from the bladder not properly performing its functions. When the spinal cord is inflamed the patient often complains of the pit of the stomach, in consequence of some irregular action of the diaphragm. The pulse is quick and small, and soft.

This inflammation is generally of the sub-acute kind; but sometimes it is more strongly marked, and when it assumes the acute character it is generally fatal.

There is no difficulty in detecting it when it exists separately; and when it occurs in conjunction with inflammation of the brain you have the combined symptoms of the two affections.

DIAGNOSIS OF INFLAMMATON OF THE SPINAL CORD.

There are only two affections which you can confound with inflammation of the spinal cord and its membranes. The one is rheumatism, and the other is inflammation of the bowels. If you attend to the following observations you will easily distinguish it—

I. FROM RHEUMATISM.

In rheumatic inflammation pain, redness, and swelling about the joints are present, and pain in the course of the spinal cord is absent. In inflammation of the spinal cord and its membranes there is pain in the course of the spinal cord, but there is no pain, redness, and swelling about the joints. You must attend to this point very particularly, because the pain sometimes is as acute in the lower extremities as in rheumatism. Always investigate the state of the head and of the spine in cases of chronic pains of the extremities and trunk. There are many cases which pass under the name of chronic rheumatism, but which are in reality connected with some chronic inflammation of the spinal cord or brain.

II. FROM ENTERITIS.

With respect to mistaking this affection for inflammation of the bowels you must be on your guard. I have been called by students to see cases which they have supposed to be peritoneal inflammation, because the whole surface of the belly has been tender. It is extremely common to find the surface so tender (except the fingers and toes) that pressure cannot be borne, and hence you might suppose the case to be one of abdominal inflammation. In these cases you will invariably find that the tenderness exists elsewhere besides over the belly, and generally over the whole surface. If the tenderness be merely symptomatic of inflammation of the spinal cord, all the symptoms of inflammation of the bowels, except the tenderness, are absent. The tongue does not indicate any inflammation of the mucous membrane, nor are there any signs of inflammation of the serous membrane of the intestinal canal. The bowels are not constipated, there is no vomiting, and the breathing is good; in short, it is in the absence of symptoms that the diagnosis lies.

LECTURE XXI.

COMMON INFLAMMATORY FEVER.

SYMPTOMS AND DIAGNOSIS OF INFLAMMATION OF THE FAUCES AND AIR-PASSAGES, LUNGS, PLEURA, AND PERICARDIUM.

The French have arranged the parts of the body liable to disease into tissues, and in describing the various internal inflammations they proceed from one tissue to another which is most like the last. Thus we might divide the subject into inflammation of the serous, mucous, and other membranes: but it appears to me better to take into consideration those parts which are adjacent, though different in their structure; for by observing them thus we obtain the opportunity of contrasting them one with the other; we have the advantage which, as in Plutarch's Lives, is derived from comparison, by which each is rendered more clear.

With regard to inflammation of the fauces and air-passages, these terms are very comprehensive, including the tonsils, the soft palate, the lining of the nostrils, the Eustachian tube, the pharynx, the larynx, the trachea, and the bronchia. The mucous membranes of these parts is a continuous structure, and hence inflammation may readily extend from one portion to another.

THE PREDISPOSITION

to inflammation in these parts is, as elsewhere, natural or acquired.

1. It is natural as connected with age. Children are extremely liable to affections of these parts, which are very delicate in their structure at an early age. Many old persons are predisposed, partly perhaps on account of the disordered state of the skin, which has an intimate connexion with the internal mucous membranes.

Something depends too in these cases upon hereditary predisposition. Those who have a soft skin which may be compared to kid's leather, are very much predisposed to affections in these parts; as are also those who have very harsh skin, such as may be compared to dog's leather.

In the first case the patient is fair and of a spare habit; in the second of a lax fibre, but of a coarse and full habit.

2. Predispositions to these affections are also acquired. When the strength becomes broken up the skin becomes blanched in comparison with its healthy state, and the mucous membranes by sympathy become delicate. Bad air; bad food; too spare or too complex a diet; stimulating drinks, as spirits; and excess of study, especially if combined with night-watching; are other occasions of acquired predisposition to affections of these parts. If night-watching be combined with anxiety of mind an additional tendency is acquired.

The study of medicine is one which is extremely arduous, and it is a common thing for students to grasp at too much at one time. It should be recollected that great mental exertion, as well as violent bodily exercise, produces exhaustion of the vital powers, and that it is an object to preserve both the body and the mind in a state of vigour, so that the student may be enabled to overcome the consequences of an accident in the dissecting-room, which, on a system already predisposed by muscular exertion, mental anxiety, and night-watching, would perhaps produce the most serious effects. A student of medicine should not attend more than two, or at most three, classes in a day.

A convent of very strict monks were accustomed to spend each day as follows: eight hours were allowed for amusement, four hours for dinner and four more for its proper digestion, eight hours for sleep and the duties of the convent, and the *remaining* time was devoted to study!

Now, though not exactly in the foregoing way, yet I would advise a pupil studying medicine to divide his time regularly. Night-watching and being too long at one time in the tainted air of a dissecting-room should be scrupulously avoided. He should have his meals regularly, never fasting too long nor hurrying himself at his meals, and he should carefully masticate his food. He should take regular moderate exercise in the open air, and occasionally use a tepid bath. He should also be so clothed as to keep the skin in action, and for this purpose flannel should be worn. Lastly, but by no means of least importance, he should on no occasion, except under very peculiar circumstances, sit up later than eleven o'clock at night. These rules should be strictly attended to.

REMOTE OCCASIONS OF INFLAMMATION OF THE FAUCES AND AIR-PASSAGES.

These are—

I. COMMON.

1. Cold; which operates as a direct irritant, or as a depressant, according as it is applied: in a strong current of cold air to the nostrils, for example; or as a person becomes universally chilled by exposure on a cold day.

2. Heat operates *locally* by directly stimulating the air-passages; hence persons coming from a cold to a hot atmosphere are in danger of affections of these organs: and also *generally* as an universal stimulant, the weak parts being most affected when general excitement is produced.

Inflammatory affections of the mucous membranes are most prevalent in a damp cold atmosphere, or in a damp warm atmosphere; in each of which states there is a considerable quantity of electric fluid. In a cold dry atmosphere affections of the serous membranes are more prevalent. But to these rules, though they obtain generally, there are of course some exceptions.

3. Mercury in some individuals excites inflammation of the mucous membranes; therefore you should never forget to be cautious in producing ptyalism in delicate persons. I have seen two instances where inflammation of the air-passages was excited by taking mercury.

One case was that of a child to which small doses of mercury were given night after night. It had a cold skin; ptyalism came on, and produced such irritation that the throat was inflamed and ulcerated, and the child died.

I saw similar effects follow the use of mercury in the case of an old broken-up drunkard; and in these cases ptyalism is always very likely to occur.

4. Another remote occasion of these affections may be called sympathy.

Some persons have congestion of the brain, evidently occasioned by disorder of the liver. A person has a disordered stomach, flatulence, furred tongue, and uneasiness in the epigastrium: and this person shall become liable to inflammatory affections of the throat; and if you trace inflammation from this source, you will find that it attacks all parts of the body in turn in different individuals.

One most common inflammatory affection of the fauces is inflamma-

tion seated about the tonsils and adjacent mucous membrane, or, as it is commonly called, cynanche tonsillaris.

THE SYMPTOMS OF CYNANCHE TONSILLARIS,

(the C being pronounced like K by the Scotch and like S by the English), or, as it is sometimes termed, quinsy, are the following:—

1. A sense of soreness, heat, and pain, about the tonsils and adjacent mucous membrane.

2. A sense of fulness in the same situation.

This varies in degree with the degree of inflammation.

3. More or less uneasiness in the act of deglutition.

4. Some thickness or nasal twang in the sound of the voice.

This thickness or nasal twang is very peculiar. Sometimes the voice resembles the noise which is made by Punch in puppet shows.

5. The patient breathes more audibly and evidently than natural through the nostrils.

6. Redness and swelling about the tonsils and adjacent mucous membrane may be seen on examination.

The best way to see this is by means of a strong light, as that of the sun when the sky is clear. Direct the patient to open his mouth, and at the same time to take a deep inspiration, while with a spatula you press the tongue so as to prevent it from interrupting your view of the parts inflamed. If the sky be cloudy you may succeed by using a small mirror and throwing the reflection of a candle on the throat; and in this way the appearance of redness, injection, and swelling, will be evident.

7. An increased secretion of mucus and saliva.

This is the product of inflammation; and occurs partly from the tonsils, and partly from the salivary glands.

The fever varies according to the degree of the inflammation. If the inflammation be acute the fever is generally very ardent: that is, the heat is very high on the surface of the body, and the pulse is very quick; I have known the pulse one hundred, one hundred and thirty, one hundred and forty, one hundred and fifty,—or even one hundred and sixty in very sensitive subjects. If the inflammation be sub-acute the fever will be less strongly marked.

But recollect that the inflammation may be apparently slight, and yet the fever may be very ardent; and then you will generally find that some other part is consentaneously inflamed, and that the inflammation of the tonsils and adjacent mucous membrane is but a small part of an

extensive inflammation. Never presume that one part only is the seat of inflammation, especially if that part be evident. For in cynanche tonsillaris it often happens that other parts are simultaneously inflamed.

Sometimes the inflammation extends along the Eustachian tube to the membrane lining the internal ear; sometimes the brain is simultaneously inflamed; sometimes the additional seat of inflammation is the mucous membrane either of the stomach or intestinal canal; this is very common in weak broken-up subjects.

Sometimes cynanche tonsillaris is a part of erysipelas.

A man, for example, receives a blow on the head, which is followed by erysipelas, and the inflammation extends over the face, spreads along the mucous membrane of the nostrils to that of the fauces, air-passages, and even intestinal canal. All this occurs from the blow having been received when the individual was in what is called a bad habit of body.

You should take an extended view of the subject, and satisfy yourself of the nature and seat of the affection, and whether it be simple or complicated.

Cynanche tonsillaris, when it exists simply, has three modes of termination.

1. It terminates by what is commonly called resolution; by which is meant a termination of inflammation without any apparent change in the part inflamed. But, strictly speaking, there is no such thing as resolution: but the inflammation in these cases terminates by an increased secretion of mucus and saliva, which increased secretion is sometimes the cause of the removal of the inflammation.

2. It terminates by suppuration, which occurs in the tonsils. One or both (mostly both) tonsils are enlarged, the swelling increases, the breathing becomes more thick and nasal, the voice very indistinct, the difficulty of deglutition very great. In short, the patient often appears in danger of suffocation, perhaps from pressure about the larynx or epiglottis; the tonsils become more and more swollen, and fluctuate, till, under the effort of coughing, they are burst, and the matter being discharged, relief is obtained.

Occasionally only one tonsil suppurates, and having healed, the other then suppurates. The patient very often becomes worried and emaciated by this slow and alternate process of suppuration, first of one and then of the other tonsil, which breaks in upon the sleep, and the patient sinks under the disturbance which it produces, and dies.

A pupil of mine last year had suppuration alternately in each tonsil; and he passed delirious nights in consequence.

Suppuration of the tonsils generally takes place in individuals of considerable strength.

3. But if the individual be very weak and of a lax fibre, it more frequently happens that ulceration takes place; and in that case you will invariably find that the patient labours under more or less irritation, either amounting to local simple excitement or to actual inflammation, of the mucous membrane of the stomach or intestinal canal.

When ulceration thus occurs it is very common to observe the glands of the neck enlarged.

The mesenteric glands are often diseased secondarily from irritation of the mucous membrane of the intestines; and, on the same principle, any irritation of the parts in the neighbourhood of the glands of the neck may irritate those glands.

A local irritation in one part will often produce an irritation seated in a different part.

A carious tooth will sometimes be found to be the cause of enlarged glands about the neck.

So also it is not uncommon to find in children a discharge behind the ears accompanied by enlarged glands.

Upon the same principle, perhaps, the glands of the groin become enlarged from the local irritation of a chancre: perhaps more than from the absorption of syphilitic virus.

Upon the same principle the glands of the axilla become enlarged from some irritation about the fingers.

I know a gentleman who suffered extremely from irritation, enlargement, and suppuration of the glands of the groin, in consequence of rudely tearing out a portion of the nail of one of his toes.

Suppuration and ulceration are the most common terminations of cynanche tonsillaris.

Sometimes in children the tonsils remain very large, either permanently or for a very long time; and this enlargement is sometimes the cause of a very troublesome cough.

An intelligent friend of mine went to a gentleman's house whose daughter, he was told, laboured under consumption; and two physicians had been daily consulted about her. The sound of her voice led my friend to look at her tonsils; and he found them so much enlarged, that they were obviously the cause of what the doctors had conceived to be a consumptive cough.

I mention this case to show you how necessary it is that, instead of taking anything for granted, you should in every case use your own eyes and other senses, and never draw hasty conclusions. Make out

for yourselves the evidence which exists, and draw from it such inferences as it seems to warrant.

Inflammation may be confined to the tonsils, and sometimes in this case the pulse is very quick; and if the other organs be sound, they will not be inflamed; but if they be weak, they will.

A variety of this form of inflammation extends along the Eustachian tube; and hence frequently deafness occurs, accompanied by mucopurulent secretion from the ear.

Sometimes inflammation extends from the fauces to the larynx.

I shall next speak of—

THE SYMPTOMS OF CYNANCHE LARYNGEA,

Laryngitis, or inflammation of the mucous membrane of the larynx.

It sometimes happens that this is a part of inflammation about the tonsils, which spreads down the pharynx, and at last invades even the larynx.

Sometimes it attacks the larynx at first.

The larynx is the organ of voice. If an opening be made into the trachea below the cricoid cartilage, the voice is destroyed. The voice is the consequence of vibration communicated to the external air; and when a person is in health it is quite clear and distinct.

The first thing which is characteristic of 'acute' or sub-acute inflammation of the larynx is the following:—

1. The sound of the voice.

The sound of the voice is either suppressed, or it is a whisper, or it is a hoarseness, or it is a rough, hollow, grumbling sound; one of these four conditions of the voice exists. The moment the patient gives you an answer, the case is easily distinguished as far as the sound is concerned. When the inflammation is seated about the epiglottis, the patient speaks most indistinctly, and in a mere whisper.

About a fortnight ago an old gentleman fell down as he was walking out, and it happened that he fell on his head. When I saw him he laboured under inflammation of the mucous membrane of the intestinal canal; erysipelas spread over his face, and the inflammation extended along the mucous membrane of the nostrils, the fauces, and the larynx. In this state his voice was not suppressed, nor a whisper, nor a hoarseness, but a rough, hollow, grumbling sort of noise; and he died of ulceration of the larynx. The next point to be attended to as a symptom of this inflammation is—

2. The sound in breathing.

It is not the noisy breathing which attends croup: but the patient in

breathing makes a noise as if he were breathing through a small wooden aperture. There is a peculiar hollow narrow sort of noise, but so slight that, unless you were very attentive, it would probably fail to strike you.

About ten days ago I was sent for into the country by a lady who was very much alarmed about her child. She had lost two children from laryngitis, and this was the third in which the affection commenced as in the others. She heard this small noise, which alarmed her, especially when she observed the chest heaving up and down, and that the hands and fingers were constantly in motion, as had been the case with the other two children. The child, when I saw it, distinctly laboured under laryngitis, but it was saved.

In more intense cases this peculiar sound on breathing is more distinct: and there is generally a flapping noise, as if the epiglottis were falling up and down. This flapping noise pérhaps never occurs except when the epiglottis itself is inflamed; and it generally is a fatal symptom. Attend likewise to—

3. The kind of cough.

The cough in cynanche laryngea is of two kinds.

In the most concentrated forms of this inflammation the patient cannot cough fully out; but the attempt to cough ends in a low, grumbling, grunting, suffocating noise about the epiglottis.

But it happens in the less intense cases that the patient does cough out; and in doing this you will hear a harsh, reverberating, clanging noise within the larynx.

When the epiglottis is much inflamed the patient cannot swallow liquids well without being occasionally choked, from the epiglottis not performing its functions properly. The patient has—

4. An occasional hem, as if to remove something from his throat.

There is an acute or sub-acute laryngitis—

5. Little, and sometimes even no, expectoration.

But this does not apply to chronic inflammation of the larynx, for the expectoration then is copious and even purulent.

In acute and sub-acute inflammation of the larynx generally there is added to these symptoms—

6. Tenderness on pressure about the larynx.

7. The respiration is quicker and more obviously performed than natural, and more or less difficult, according as the affection is acute or sub-acute.

Hence you see the chest heaving up and down more than natural; the alæ nasi moving to and fro with very great rapidity; the larynx

too is drawn first in, and then out, with a preternatural effort; and all the auxiliary muscles of respiration are called into action. The patient seems to draw the breath inward, as if he were breathing through a smaller aperture than natural. The rima glottidis in this affection is lessened, and occasions difficulty of breathing, which is increased by fits of spasm.

8. The countenance has an anxious, a suspicious, or an alarmed expression: the eyes being in general more prominent than natural.

9. The patient moves his arms and fingers very much.

This is especially the case in children.

10. The pulse is small and frequent.

The pulse grows quicker and quicker as the affection advances.

11. The heat generally is not remarkably high on the surface. The skin is not so hot as the state of the pulse would indicate. When the epiglottis is affected simultaneously with the glottis—

12. The patient is afraid to drink.

The epiglottis when inflamed and swollen does not perform its office properly, and the patient fears lest the water should get into the larynx: a drop of water getting within the glottis produces spasmodic cough, and when the patient swallows he generally coughs.

The breathing becomes more and more affected, and the prostration of strength is greater and greater.

When the inflammation is mainly seated lower down, the patient is able to cough out, but the voice is hoarse or a whisper. The symptoms in this case are not so pressing: there is the same combination of circumstances except that the patient has the power of coughing fully, though with a peculiar sound in the larynx.

Cynanche laryngea is an affection which not unfrequently attacks individuals accustomed to great mental efforts.

It proved fatal to Washington, who was one of the most distinguished individuals in the world, and, as far as history goes, one of the purest patriots that ever existed: certainly the man amongst all warriors upon whose actions the philosopher and the philanthropist may rest with the greatest satisfaction and pleasure.

Sir J. Macnamara Hayes, also, a distinguished physician; and Dr. Pitcairn, an individual still more talented, lost their lives by this affection.

I have known several individuals in the Fever Hospital die of this affection: and I was led to ascertain the source of its frequent occurrence in persons convalescent from other affections. It obviously arose from

the neck being exposed to the draughts from the windows in the convalescent ward, instead of being covered with a neckcloth.

Sometimes this affection is brought on by drinking hot water, which inflames the mucous membrane of the fauces, of the pharynx, and of the larynx, which parts are in these cases always simultaneously inflamed.

Mercury occasionally excites laryngitis by inflaming the mucous membrane of the fauces which is reflected downwards and lines the larynx, trachea, and bronchia.

This inflammation in its most acute form is perhaps the most formidable and most dangerous inflammation that attacks the human body.

The duration is decided by its degree. If it be acute it generally runs its course with dreadful rapidity.

I have seen it in one case terminate fatally in seven hours from its commencement. In another case it ran its course in eight hours. In other cases I have seen it terminate in twenty-four hours; and in others in forty-eight hours.

If you convert it into chronic inflammation it will go on many weeks.

It very often terminates in chronic inflammation and ulceration unless it be nicely managed. This ulceration will destroy life, either by keeping up excitement accompanied by gradual emaciation and expectoration of pus, or by exciting an attack of acute inflammation.

DIAGNOSIS OF CYNANCHE LARYNGEA.

There are two cases which you might confound with inflammation of the larynx; and both are of a spasmodic character.

1. Infants without any fever are, occasionally, suddenly attacked with great difficulty of breathing; and sometimes die almost instantly. It occurs for the most part under dentition; but I have seen it occur at a later period of life. A child is suddenly seized with a difficulty of breathing; and its parent, becoming alarmed, sends for a medical man. On his arrival the child is sometimes found to be dead; but sometimes it happens that the attack is quite gone off. It is usually relieved spontaneously by an attack of coughing and expectoration of mucus or lymph.

The anxieties of mothers, it is true, are sometimes without foundation, but generally they are not so; on the contrary, their observations on their children are very correct.

These attacks are almost invariably connected with some irritation about the mucous membrane of the stomach or intestinal canal.

One friend of mine, on examination of these cases, has universally found inflammation about the lower part of the ilium.

2. The brain has a remarkable influence on the larynx; and sometimes in affections of the head, as in epilepsy or in hysteria, the patient is suddenly seized with difficulty of breathing.

In this case the difficulty of breathing comes on rapidly, and goes off suddenly; and there is no fever. In epilepsy or hysteria, for instance, it occurs before the fit—that the patient suddenly has great difficulty of breathing, with a suppressed voice, so that he gasps as it were for breath. It gives way to æther, or especially to emetics.

No doubt the larynx is sometimes closed suddenly by spasm.

I saw one individual who died suddenly while the surgeon was preparing to perform the operation of tracheotomy.

I saw another patient who died while I was deliberating whether to perform the operation or not. The death generally occurs very unexpectedly, in consequence of the rima glottidis being suddenly spasmodically closed. I may add that—

3. An abscess in the tonsil is sometimes so large as to press on the epiglottis, and almost to produce suffocation, with all the symptoms of inflammation of the larynx. This is suddenly relieved by the discharge of a large quantity of matter from the tonsil. This may be detected by examination.

SYMPTOMS OF CYNANCHE TRACHEALIS.

Croup, cynanche trachealis, or inflammation of the mucous membrane of the trachea, is only a modification of cynanche laryngea; for in all the cases of croup which I have seen the larynx has been more or less inflamed. It is only a less intense degree of cynanche laryngea, combined with more or less inflammation of the trachea. The inflammation is less in the larynx and more in the trachea; and hence it has some apparently peculiar characters.

Children are more liable to this inflammation than adults: the larynx undergoes a very great change about the age of puberty. It sometimes, however, attacks adults as well as infants. It is extremely common in Scotland, where the weather is subject to sudden and considerable variations.

The following are the symptoms which mark common croup:—

1. A shrill, loud noise during inspiration.

This may be heard to a great distance from the patient's chamber.

2. A crowing, barking, or hoarse croaking raven sort of noise on coughing.

The patient likewise breathes and coughs as if through a brazen, reverberating tube. This shrill, harsh noise occurs both under inspiration and expiration.

Sometimes the cough resembles the barking of a dog; sometimes it is more like the crowing of a cock. These comparisons are necessarily imperfect, but they will give you a better idea of the sound than any other with which I am acquainted.

3. The respiration is frequent and laborious.

4. The cough is frequent and sometimes severe.

5. There is an expectoration of mucus, generally mixed up with patches of lymph.

These have the appearance of threads in form, or are like pieces of membrane moulded to the form of the trachea. The expectoration is generally plentiful.

6. The fever is generally very openly developed.

The heat on the surface is higher, and the pulse is stronger and more expanded, than in cynanche laryngea.

7. The patient has a hoarse and rough voice.

As the disease advances the heat fails, the heart's action becomes feeble, the respiration weak, and the child sinks with a livid face and symptoms like those attendant upon cynanche laryngea.

It has been said by Cullen that the deglutition is not difficult. This sometimes is certainly true; but in other examples it is not true.

I was once attending a gentleman and his wife who laboured under cynanche tonsillaris, and I was not at all alarmed about it: but in both of these cynanche laryngea came on. This was the consequence of my reliance on the accuracy of Cullen's definitions. I beg therefore that you will be upon your guard against all big-wigs, and appeal to nature, and to nature only, for a correct account of the symptoms. If you do so you will find that croup sometimes happens to be joined with cynanche tonsillaris; and then there is difficulty of deglutition.

Now inflammation in this case is always to be found in the larynx and trachea, and sometimes extending down the bronchial lining.

SYMPTOMS OF BRONCHITIS.

Inflammation of the mucous membrane of the bronchia, the peripneumonia notha of the older writers, and what is called by modern authors bronchitis, is designated by the following symptoms:—

1. The breathing is more quick, more uneasy, and more laborious than natural.

When the respiration is difficult the circulation of the blood is retarded,

as I have before mentioned. Many a case commences as a head affection, and finishes in bronchitis; and many a case commences in bronchitis and terminates in an affection of the head.

2. The breathing is mostly attended by a purring, rattling, or wheezing noise.

This might be passed over without notice if you were not careful in your observations; but you will almost invariably hear it by applying your ear to the patient's mouth. It is generally present, though sometimes it is slight, or even entirely absent, especially if there be copious expectoration of the mucus which is effused. There is mostly—

3. A frequent cough, with a loose, diffused, deep, stuffing noise.

This is sometimes absent in the excessively severe cases, where an effusion of serum takes place into the bronchial passages, and then the patient dies very rapidly; but it is generally present. There is mostly, too—

4. A copious expectoration of a mucous kind.

In the slighter cases the expectoration is glairy and frothy; in more severe cases it is opaque; and in the still more severe cases it is puriform, and spit up generally in large patches, which run together in the vessel, forming one mass.

These patches look like the yolk and white of an egg mixed up together, or like mucilage of acacia beaten up with a spoon. In the early stages the sputa are opaque, but very nearly transparent as the disease advances.

The expectoration is sometimes mixed with blood. This is one of the most common causes of expectoration of blood; and does not at all aggravate the case, but generally relieves it. A copious effusion of blood, however, will sometimes produce suffocation.

5. A deep inspiration gives no pain.

6. There is a purple or leaden colour of the lips.

Sometimes the lip is pale; sometimes a deep purple, like the plum or the grape; or of a leaden or violet tinge.

7. There is a purple colour, or pale livor of the cheeks.

The reason why I mention the purple colour, and the paleness with livor, of the cheeks is this. The cheeks of individuals ruddy in a state of health become in this affection purple, as in ruddy adults; while in children who have in health a pale hue of the cheeks, the colour of the cheeks in this affection is altered to a pallidity which is mixed up with livor; from carbonaceous blood circulating in the capillaries of the cheeks.

An example of the first of these hues of the cheeks is often seen in

old adults. Infants on the other hand often have a paleness and livor of the cheeks, which is usually remarkable if you stand at some little distance from the child's bed-side. It is especially observable in the wards of an hospital: if you compare the cheeks with those of another child, in an adjoining bed, labouring under some other affection. In the progress of the affection—

8. There is generally more or less heaviness of the head.

This arises from the interruption to the natural change which the blood undergoes in its passage through the lungs in a state of health. The blood ought to produce a certain healthy action in the brain; but this is not the case when a venous blood circulates in the arterial system; and the consequence is—

9. Generally, considerable prostration of muscular power.

10. The pulse is generally soft and compressible.

11. The heat is generally moderate upon the surface.

To these last two remarks there are some exceptions. In slight cases, both in children and adults, the heat may be high and the pulse quick.

Some cases of bronchitis terminate very rapidly. An old man exposed to the cold is chilled, and dies of an effusion of mucus or of a muco-purulent fluid in the bronchia.

This affection is most common in old persons or infants, though perhaps at some colleges they would be surprised to hear it said (though it really is the case) that peripnuemonia notha is common in infants and children.

The great point to attend to is the relation between the quantity secreted and the quantity expectorated. Take this into account, and from it you may draw the balance in favour of or against the safety of the patient. If the quantity secreted exceed the quantity expectorated; if the purring, rattling, or clanging noise increase, while the expectoration becomes less copious, the danger of the patient is often excessively great.

In the special bronchitis there is an exception to this. The danger then is not to be apprehended from the quantity secreted so much as from the kind of secretion. The secretion then is far more sticky, like varnish smeared over the bronchial lining, so as far more effectually to exclude the air from contact with the blood than is the case with the less sticky but more copious secretion in common bronchitis. And all those fevers which are called typhous, typhoid, putrid, low, or malignant fevers, owe their characters to this special bronchitis, as I shall have occasion more fully to explain in speaking of typhus fever.

It happens occasionally that a certain state of atmosphere produces what is called Influenza, or sometimes Catarrh. It is nothing but an inflammatory affection of the mucous membrane of the air-passages. Malaria, which produces typhus fever, affects the mucous membranes very peculiarly. I have never seen a fatal case of typhus fever in which there was not inflammation of the mucous membrane of the air-passages and ulceration of the intestines. Measles affect the skin, and the mucous membranes, especially of the air-passages. The same may be said of small-pox, hooping-cough, and scarlet fever. Extensive burns and erysipelas destroy the skin, and the mucous membranes of the air-passages and bowels become inflamed.

No part of modern pathology is, upon the whole, so difficult as that of inflammatory affections of the mucous membrane of the air-passages and intestines, arising from common and peculiar occasions; and there is no part of my professional life which I can review with so much satisfaction as that which I have spent in watching the symptoms and results of, together with the effects of remedies upon, these forms of inflammatory fever.

There is something in the very structure of the chest which predisposes the pleura, lungs, and pericardium, to inflammation. The anastomosis of the vessels within and without the chest is very considerable; and hence the great changes of temperature which occur so suddenly in this country, operate very readily, especially if the chest be not clothed. All inflammatory affections of the chest are more likely to occur in a variable temperature than in a steady low temperature.

With respect to—

THE SYMPTOMS OF PNEUMONIA,

or inflammation of the lungs, you must remember that peripneumonia and pneumonia are synonymous terms. But peripneumonia, united with the epithet notha (peripneumonia notha) is used by the older writers to designate the bronchitis of modern authors.

Pleuro-peripneumonia denotes inflammation existing at the same time in the lungs and in the pleura. I shall use the term pneumonia, as signifying inflammation of the substance of the lungs. This inflammation is marked by the following symptoms:—

1. A sense of confinement or stricture in one or both sides of the chest.

One lung only may be inflamed; but in other cases both lungs may be inflamed.

2. A deep and dull pain on the lungs.

This pain is generally seated in the middle or lower part of the lung, and is increased by coughing or by making a deep inspiration. The upper part of the lung is rarely the seat of acute or sub-acute inflammation, which is usually confined to the middle and lower parts of the lungs; but tubercles are more likely to be found in the upper part of the lungs in the first instance.

3. A frequent cough, with a limited, harsh, hard, grating noise.

It is very peculiar, and sounds as if it were confined to a portion of the lungs.

4. A scanty, viscid, and remarkably dense expectoration, in greenish or yellowish patches.

This expectoration is got up with great difficulty; resembles small patches of glue; and the expectorated matter will still adhere to the bottom if you turn the vessel which contains it upside down. Most frequently it is of a yellow colour; but sometimes it is of a greenish cast.

Difficult breathing is common to other affections of the chest; but the peculiar pain and expectoration are very characteristic of inflammation of the substance of the lungs.

5. The breathing is short, heavy, and laborious.

The number of respirations in a healthy adult varies from sixteen to twenty in a minute; but in inflammation of the substance of the lungs the frequency of the respirations increases to thirty, forty, or even more in bad cases. Each inspiration and each expiration are made with a laborious effort; this is called "frequent and laborious respiration."

6. The pulse is sluggish, struggling, and oppressed.

It is not so hard and cordy as in pleuritis, and the fever generally is not so much developed. Be careful in these cases about the number of the pulse; sometimes its frequency is sixty, seventy, eighty, or sometimes above one hundred in the minute. I have known some of the most severe cases of inflammation of the substance of the lungs, in which the frequency of the pulse has not been above seventy in a minute.

7. The heat on the surface is seldom very high.

There are exceptions, however, to this.

In some cases the patient can, in others he cannot, lie on the affected side. And this observation applies to abscess of the lungs.

A very remarkable circumstance, which should make you cautious in pronouncing that the inflammation is removed, is that apparently a cure takes place, and there is a remission of the urgent symptoms for

a day or two, and the patient appears to be getting well. But during this period of convalescence the lungs are sometimes gorged with blood, which may again produce pneumonia; and suddenly all the symptoms become aggravated. This gorged state of the lungs may be detected by the stethoscope.

In all the various forms of inflammation seated in the chest the tongue is generally moist, and is seldom furred, except where the stomach or the liver are disturbed.

In typhoid or typhus fevers the serous membranes are very rarely inflamed, if you except the arachnoid, which I suppose we must consider as a serous membrane. But in Pneumonia Typhoides (as it is called) the pleura generally becomes at the same time inflamed, and the tongue is glazed, brown, and as dry as a stick; the pulse is small, soft, and slow, and the heat on the surface is smothered.

SYMPTOMS OF PLEURITIS.

Inflammation of the pleura may exist with or without fever; but it is oftener acute or sub-acute than chronic.

Acute or sub-acute pleuritis, or inflammation of the pleura, is known by the following signs:—

1. There is a pain or stitch in the side, more or less acute.

The pain is more acute than in pneumonia, and is increased by a deep inspiration.

2. There is a frequent hard cough, or an occasional catch in the breath, or both.

It is worthy of notice, that in some most intense forms of inflammation of the pleura the cough is entirely absent; but then you have a catch in attempting to take a deep inspiration. If when you tell the patient to draw down his breath suddenly, you find that he has a catch, you may consider it as certain a diagnostic of pleuritis as the cough itself. Sometimes both the cough and the catch in the breathing are present.

3. The breathing is hurried and more or less difficult.

4. The pulse is quick and hard.

5. The skin is hotter than natural.

The heat of the surface is higher and the fever more fully developed than in pneumonia; and there is a higher degree of heat over the inflamed part, that is, over the integuments of the chest, than elsewhere.

As to the sputa, in most cases, in the beginning there is no expectoration at all; but in the progress of the disease it consists of a transparent, frothy, glairy mucus.

The tongue undergoes but little change either in pneumonia or pleuritis till towards the close of the disease, and then it is of a purple colour : it is generally moist throughout.

In both these affections the urine is scanty and turbid, like the white and yolk of an egg blended together and mixed with water. When this turbid urine occurs you may generally bleed with freedom. There are, however, some exceptions to this.

In almost all cases of inflammation of serous membranes the urine is scanty and high coloured.

Acute inflammation of the lungs generally terminates in a week ; sub-acute inflammation not till the second or third week. But in weak subjects sub-acute inflammation may run its course rapidly.

A pupil of Mr. Grainger's had sub-acute inflammation of the pleura, which began and terminated in twenty-four hours ; and this is frequently the case.

I once thought it was impossible to distinguish inflammation of the lungs from inflammation of the pleura, but I am now convinced that you can generally distinguish them.

DIAGNOSIS OF BRONCHITIS, PNEUMONIA, AND PLEURITIS.

If you attend to the following points you will be at no loss for a satisfactory distinction between these affections in structures so closely seated. Take, *first*, the kind of—

COUGH.

1. In bronchitis it is loose, deep, and diffused.

2. In pneumonia it is limited, harsh, and grating: a metallic sort of noise compared with the cough in bronchitis ; it is deep within the chest, limited as it were to the inflamed portion of the lung.

3. In pleuritis it is hard, dry, and short, with neither the loose diffused sound of the cough in bronchitis, nor the harsh grating sound of that of pneumonia, so that you must be struck with the difference.

I could in any case say from the sound of the cough in which of these parts the inflammation was seated.

Attend, in the *second* place, to the—

EXPECTORATION.

1. In bronchitis it is copious, spit up in large, broad, loose, mucilaginous patches, which run together into one mass. It varies in the progress of the disease, being at first thick and mucilaginous, and towards the close more and more loose and transparent, till it ceases.

2. In pneumonia it is scanty; got up with great difficulty, in greenish or yellowish patches, very small, and so tenacious that when the vessel is turned upside down they adhere to its sides like glue.

3. In pleuritis it is entirely different; there is no expectoration in the beginning, and in the progress it consists only of a little frothy transparent mucus.

The *third* point to attend to in the diagnosis is the—

PAIN.

1. In bronchitis there is generally no pain. A deep inspiration and a full expiration can be made without producing any pain.

2. In pneumonia a dull pain is felt on inspiration, and often on making a forcible expiration.

3. In pleuritis there is an acute pain on inspiration or coughing, or making a full expiration.

The *fourth* point requiring attention in the diagnosis is the—

PULSE.

1. In bronchitis,—with some exceptions, as in children,—the pulse is soft and compressible compared with the pulse in pneumonia and pleuritis.

2. In pneumonia the pulse is struggling, as if the heart were labouring to throw off some superincumbent load.

3. In pleuritis the pulse is hard, very contracted, and resisting.

These are the four points mainly to be relied upon in the diagnosis between these inflammations of the chest; especially the cough, the expectoration, and the kind of pain.

The head is more apt to be affected in bronchitis than in either pneumonia or pleuritis. I have seen very few patients recover where the brain has been embarrassed in pneumonia, but I have seen a great many recover after the brain has been embarrassed in bronchitis.

The duration of bronchitis is generally much longer than that of inflammation of the lungs, especially if there be expectoration; unless it be a very sudden case of bronchitis.

There are also some other guides in these affections, which are of service in the diagnosis, if they be nicely observed.

It very often may be noticed that when any individual makes an important discovery, he is very apt to abuse it, and disregard every other guide. This is the case with Laennec, who holds the common modes of distinguishing affections of the chest from each other in absolute contempt. He is too sceptic as to the symptoms, and uses the stetho-

scope with all the enthusiasm of a man who has made a discovery. No author I know of seems to be on the whole more honest than Laennec; but he holds in too much contempt those individuals who investigate these affections in the ordinary way. But the truth is that it is the business of a medical man to take the symptoms as they occur; and with these he may take the use of Laennec's instrument, which is also a very good guide with the rest. In fact, in the diagnosis of disease he should take every help he can procure.

PERCUSSION

is a good guide taken in conjunction with the symptoms.

If you take a perfectly healthy chest, and strike your hand on the upper and middle part of it, a sound will be emitted somewhat like that of an empty cask when struck. In the diseased chest the sound upon percussion is comparatively dull.

My friend, Dr. James Johnson, met with a case of a medical man, who was labouring under a slow inflammation of the substance of the lungs, as was quite distinct by percussion. Over the inflamed part the sound was very dull or entirely absent; and all the other symptoms showed that the substance of the lungs was the seat of inflammation.

The natural sound in percussion of the chest is absent to a certain extent in bronchitis, in pneumonia, and in pleuritis: you have a dull dead sound.

THE CYLINDER

is an instrument the use of which may serve us as another guide in these cases. You may derive great assistance in the diagnosis by contrasting the morbid sounds with the sounds which are naturally emitted. And if you also ascertain by dissection after death the condition which exists, so as to connect the condition with the morbid sounds, you will be enabled to arrive at a remarkable preciseness of opinion. This instrument requires the strictest attention to the natural sounds; I have been entirely deceived by it, because I had not sufficiently educated my ear to the natural sound. Laennec is hardly ever mistaken in the opinion which he gives from the use of this instrument.

1. In bronchitis you have a soft, loose, diffused sound, which has been called by Laennec the mucous guggle, on application of the cylinder over the chest. This sound is variable, being slight or lost after a copious expectoration; but returning or becoming more distinct as the quantity of secretion increases. Sometimes you will find it on one side, sometimes on both sides.

2. When pneumonia exists, and you apply the cylinder over the chest, you hear a harsh, metallic, grating noise, especially when the patient coughs. What Laennec calls the crepitous rattle is heard over a certain space of the lung. It is not the natural sound, but a harsh noise, resembling that which you may suppose to arise from the rustling of the wind through the leaves of a tree, if those leaves were of metal. It is a kind of metallic sound. As the inflammation increases this becomes more and more apparent; but as the inflammation subsides the natural sound is heard again. In the second, and especially in the third, stages of pneumonia, the natural respiratory murmur is lost altogether.

3. When the pleura is inflamed, and a copious effusion has taken place into the chest, from a loss of time at the onset of the attack, there is a loss of the natural murmur in the breathing, which is so peculiar as easily to be recognised. There is a more sudden and more extensive loss of the natural murmur, which also returns much more slowly when the patient recovers than in pneumonia. Or if the natural murmur be not entirely lost, you may have what Laennec calls hegophony, from the fluid compressing the lung. It almost resembles the bleating of a goat, and is a certain diagnostic of effusion into the chest: and when it is combined with a hot skin and quick pulse, there can be no doubt about the case.

This instrument may guide you, too, in cases of effusion of blood into the bag of the pleura from accident. Baron Larrey mentions many cases of this kind.

You must be very cautious in the application of this instrument. I am quite confident that a great many children are lost from carelessly exposing the chest, as for the purpose of applying leeches. Never expose the chest in any case, unless in an apartment the temperature of which is regulated; and with regard to applying the cylinder, you can generally do it as well when the chest is covered with flannel or cotton smoothly, as you can when the chest is exposed.

Sometimes by the treatment, or spontaneously, the acute form of pleuritis or pneumonia is converted into the sub-acute form. Sometimes by accident or mismanagement the sub-acute is converted into the acute form. And either of these forms may lead to the chronic form.

The pleura pulmonalis being inflamed, the inflammation is very likely to spread to the substance of the lungs; but the lungs being first affected, the inflammation is not so likely to spread to the pleura.

Sometimes you have pneumonia simultaneously with bronchitis.

A medical man, a friend of mine, has repeatedly had concurrent symptoms of inflammation of the pleura and lungs. Whether inflammation be seated in the pleura or in the lungs, if it be advancing it will be marked by the following circumstances:—

1. The dyspnœa increases.

2. If you attend to the patient for a minute, you will observe that he draws in and gives out less air than before.

3. The cough becomes weaker and the expectoration less.

4. The rattling noise which takes place in the advanced stages from effusion of mucus into the lungs becomes nearer and nearer.

5. The alæ nasi are in constant motion; and the muscles of the neck, the muscles of the abdomen, and the diaphragm, are called into increased action.

6. The number of respirations become higher and higher, till a little before death, when the respiration becomes slower. Immediately before death it becomes quicker and quicker, but weaker.

7. The pulse is quicker and weaker. In pneumonia it is sometimes exceedingly oppressed, and not more than sixty.

8. The skin is more relaxed and damp, and the heat less.

9. The lips and face become more and more livid; and, lastly,

10. A general collapse of the whole system succeeds.

With regard to the appearance of the blood, sometimes in the most intense inflammation there is no buff at all upon it. Buffy blood may be produced by simple excitement. I have often been remarkably struck with the buff on blood in cases where there was no inflammation. On the other hand, a patient in the Fever Hospital had distinct inflammation of the liver, but no buff appeared on the blood. In typhus fever, and all bronchial affections, when the breathing is much oppressed, there is no buff on the blood. Bronchitis which arises from a common occasion often shows more buff on the blood than bronchitis which arises from the peculiar occasion of typhus fever. Individuals who have flabby muscles seldom have firm buff on the blood, unless the inflammation be very intense; but it resembles jelly. In persons who have firm muscles there is a firm buff on the blood under inflammation.

SYMPTOMS OF PERICARDITIS.

There is yet another form of inflammation of which I have to speak, namely, pericarditis.

All those remote occasions which produce pneumonia and pleuritis, produce also pericarditis; but those who are hereditarily prone to in-

flammation of the pericardium are remarkably liable to attacks of rheumatism.

Pericarditis or acute or sub-acute inflammation of the pericardium is designated by the six following symptoms :—

1. More or less pain in the region of the heart.

This is increased by deep inspiration ; or by turning, especially on the left side ; or by motion of the body, especially by bending the chest backwards.

2. Irregularity of the pulse on motion.

Almost all writers state the pulse in pericarditis to be irregular ; but in many of the cases which I have seen it has been regular. The pulse is generally regular while the patient is still, and is disturbed by motion. When the patient is in the erect posture the pulse is irregular, and a tendency to syncope occurs. Cullen has set this down as a symptom of carditis.

3. A dread of motion, or a tendency to syncope during motion.

4. A slight cough frequently occurs, but only comes on occasionally, and the patient seems to dread it.

5. Anxious, irregular breathing.

The patient breathes sometimes quicker and sometimes slower: it is not the peculiar difficult breathing which attends pleuritis or pneumonia. The breathing is generally short, but not difficult ; it is anxious and irregular.

6. Irregularity between the heart's stroke and the pulse.

Irregularity, I mean, between the stroke of the heart as perceived in its own proper region, and the pulsation in the radial artery. The pulse at the wrist is generally small, while in the proper region of the heart there is a strong and bounding stroke to be felt.

In enteritis it sometimes happens that you have a hard small pulse at the wrist ; but if you put your hand on the region of the heart, you will feel it pulsating powerfully. This is the case in pericarditis ; and generally this indicates the necessity of abstracting blood.

Throughout pericarditis there are, generally, anxiety, dread of motion, and a solicitous and alarmed expression of countenance. It is very frequently complicated with pleuritis.

The term Carditis, used by Cullen, is intended to designate inflammation of the substance of the heart; but such inflammation is exceedingly rare; while pericarditis or inflammation of the pericardium is by no means so uncommon, especially in individuals subject to attacks of acute rheumatism.

LECTURE XXII.

COMMON INFLAMMATORY FEVER.

SYMPTOMS AND DIAGNOSIS OF INFLAMMATION OF THE STOMACH, BOWELS, AND PERITONEUM.

In this lecture I shall consider the symptoms of inflammation of the serous and mucous membranes of the stomach and intestinal canal.

I am inclined to adopt the common mode of lecturing on inflammation,—beginning with the head, and proceeding thence to the chest and abdomen—in preference to that method in which the structures are considered according to their similarity to each other; for I consider, as I have before stated, that by contrasting diseases of different structures the peculiarities of each will be more evident, and a tact of distinguishing them will be more readily acquired.

It is of considerable consequence to bear in mind that the mucous membrane of the stomach and intestines, or of the urinary bladder, is very often inflamed at the same time with the mucous membrane of the air-passages; and that a patient labouring under pleuritis very often at the same time has an attack of peritoneal inflammation. These are very important pathological facts.

I am now attending some cases the contemplation of which has given me great pain. Last week I saw a family which lately consisted of four children, each of whom became the subject of hooping cough, and in all of them the lining membrane of the large and small intestines became inflamed. The first and the second died of ulceration, the third is now dying of ulceration, and in the fourth there are strong reasons for suspicion of the existence of ulceration.

If you fix your attention on one seat of inflammation alone you have in these cases no chance of success.

Another important point to be remembered is, that a chronic disease often precedes an attack of acute or sub-acute inflammation of the stomach and intestines. What is called the marasmus of children and the dyspepsia of adults is generally connected with some slight irritation of the mucous membrane of the small intestines. It is generally associated also with a defective or an irregular secretion of bile, or a torpid

state of the colon, and generally with a dry husky state or a faded and withered appearance of the skin. From the works of some authors you might be led to infer that it came suddenly; but it is almost invariably preceded by distinct symptoms of disorder. The attack of acute or sub-acute inflammation is generally brought on by some irregularity of diet after this state has existed. Sometimes it is brought on from the administration of physic—from the irritation of antimony or drastic purgatives, especially in children. And in all cases, before you prescribe such harsh medicines either to children or adults, it behoves you to ascertain whether any such irritation of the mucous membrane of the stomach or intestines exists, and to recollect that these irritant occasions are the more apt to take effect under certain conditions of the atmosphere, especially when the atmosphere is cold and damp, or even warm and damp.

Now dyspepsia and marasmus, as well as indigestion and disorder of the digestive organs, are very vague terms. Attempt to analyze them and you will readily perceive that they cannot be referred to any single principle of pathology; and yet the symptoms depending upon so many essentially opposite pathological principles, various in their nature and seat, are included, forsooth, under the sweeping term dyspepsia.

At certain ages, as in infancy and childhood, the mucous membrane of the intestinal canal is very likely to become inflamed. A low degree of irritation from peculiar drinks or diet will predispose to it; but a higher degree of irritation from the same source will actually excite it. Hence such affections prevail constantly in children whose diet and clothing are at the same time neglected.

It prevails also among adults; and the French, who drink brandy and sour wines and eat chiefly made dishes, and who live in a temperature which predisposes them to it, are more liable than the English to muco-enteritis.

Individuals who live in an extremely variable temperature are very prone to this affection; hence it is very common, and prevails in the acute, sub-acute, and chronic forms, in the United States of America.

The weakest individuals are the most prone to inflammation of the mucous membranes, while the strongest and most robust are more liable to inflammation of the serous membranes.

Individuals cooped up in a crowded district are remarkably prone to muco-enteritis; hence it is very common in London. And a certain class of persons are much more liable to inflammation of the mucous membranes in London than in the country. I was remarkably struck with this when I came to town and first observed the febrile affections

of the metropolis. Children who are badly clothed and fed, and confined to an impure atmosphere, and adults who drink tea and spirits, are very liable to the affection to which I am alluding. Persons in the higher situations of life, too, use a very mixed diet, sit up late at night, and spend their lives in the observance of absurd forms and customs; and hence their diseases approach in a remarkable degree to those of the lower classes.

Constipation predisposes powerfully to serous inflammation: it is most frequently the occasion of sero-enteritis, or what is commonly called by nosologists, inflammation of the bowels. It is, however, very important to distinguish inflammation of the serous from inflammation of the mucous membranes. For this purpose I shall adhere to the old names, gastritis and enteritis—speaking separately of the symptoms of sero-gastritis, muco-gastritis, sero-enteritis, and muco-enteritis.

To begin with the stomach :—the

SYMPTOMS OF MUCO-GASTRITIS.

or inflammation of the mucous membrane of the stomach are—

1. Pain in the region of the stomach.

If the inflammation be acute the pain is very distinct; if it be sub-acute the pain is generallly obscure.

Recollect, then, that the pain in this form of inflammation is not always distinct, as is set down by nosological writers. You must, therefore, have recourse to pressure: and it is only upon pressure that the pain can be distinguished when the inflammation is sub-acute. If you make pressure upon the epigastrium, and tell the patient at the same time to take a deep inspiration, the pain will be produced. Take care, however, lest you be deceived about the pain, for hard pressure in the epigastrium will seldom be borne by any individual, even in health. You are not to thrust your fingers into the epigastrium of the patient; for you or any one would flinch from such treatment. You must make moderate pressure in these cases in order to get any precise notion of the condition which exists.

You must take into account the fact that, if a bronchial affection exist, the most destructive inflammation of the mucous membrane of the stomach may be going on without any pain being felt in the inflamed part, because the patient is muddled with the effects of the bronchial affection; or, when the brain itself is disordered, the pain is generally absent.

2. A sense of heat internally, referred to the stomach.

This heat is very distinctly felt by the patient when the inflamma-

tion is acute, and is so ardent, that the patient will often have an incessant desire to be sprinkled with cold water, even when he is dying. But when the inflammation is sub-acute, it is, in many instances, entirely absent.

3. An intense and insatiable desire for cold drinks.

This is more distinct when the inflammation is acute; but is far less urgent in sub-acute cases, though it attends even that degree of the inflammation, more or less; and it attends even those cases where the tongue is very moist.

4. Nausea, retching, vomiting, or loathing of food.

When the inflammation is acute, nausea, retching, or vomiting, almost invariably attend; but very often, indeed, they are absent when the inflammation is sub-acute.

Vomiting is said by nosological writers always to attend inflammation of the stomach: but this is not true; for sometimes the inflammation is sub-acute, and then it generally happens that there is loathing of food, though this is not always present; and then the vividly red tip and edges of the tongue, and pain in the epigastrium on pressure, are the only indications you have of the inflammation, with a pulse somewhat quicker and a skin somewhat hotter than natural.

You must be very cautious about the state of the tongue; for, when vomiting occurs, the tongue is moister than natural from the more copious secretion than natural of saliva. This should not be suffered to deceive you.

5. A red tongue.

This redness is generally most evident at the tip of the tongue, and a short way round the edges. And if you examine the tongue minutely, you will observe that the papillæ are more raised and more red than natural: they are raised through the fur upon the tongue, like the points of a strawberry. Sometimes the redness extends like a fiery streak down the middle of the tongue. In the worst cases, where there is no fur upon the tongue, it is over the whole surface vividly red. And when the patient in these cases protrudes his tongue, the tip is turned a little upwards; why, I know not. So, also, when the patient protrudes his tongue a long way, and presses it together, so as to make it, as it were, a pointed wedge, then its surface is redder than otherwise; and this may be seen in the tongue of a person in perfect health. The redness extends to the fauces, sometimes in a considerable degree.

This redness of the tongue indicates inflammation of the stomach and small intestines alone.

If you examine the surface and round the edges of the tongue, little

aphthæ, or small ulcers, will sometimes be apparent. In other instances there are little effusions of coagulable lymph from inflammation of the tongue. These are most apt to occur in delicate and emaciated individuals, whether children or adults.

6. A concentration of heat about the epigastrium externally.

This is so great that, in laying your hand over the epigastrium, a pungency of heart is felt there.

7. A hurried or anxious respiration.

This is especially the case if the inflammation be acute. The respiration is sometimes very little disturbed if the inflammation be sub-acute.

8. The pulse is soft and compressible.

Compared with the pulse in inflammation of the serous membranes it is soft, resistless, and far more oppressed.

9. The general heat of the surface is higher than natural.

But when the inflammation is suddenly and intensely set up sometimes it happens that the heat over the whole surface is not higher than natural.

All acute and sub-acute inflammations, generally speaking, have two stages. The one is a stage of excitement, in which the pulse is frequent, in which the heat is high, and in which the strength of the patient appears unsubdued. Then comes the stage of collapse, in which the heat of the surface falls, in which the pulse becomes quicker and weaker, and in which the strength of the patient is obviously subdued.

There is greater prostration of strength in muco-gastritis than in sero-gastritis.

If the inflammation be acute it runs a very rapid course, terminating in twenty-four or forty-eight hours sometimes, and generally in three days, if it be seated in the serous or mucous membrane of the stomach.

Sub-acute muco-gastritis is a very insidious disease. I have no doubt that the account given of gastritis by our systematic writers has occasioned the death of many persons. They have set down only the most palpable symptoms, and have disregarded the nicer shades of distinction between inflammation of the mucous and that of the peritoneal coats of the stomach. They have not been in the habit, it would seem, of comparing symptoms with the appearances on dissection.

There is one other more rapidly fatal form of inflammation, especially of the mucous membrane of the stomach, and of a portion of the mucous membrane of the intestines; sometimes occurring in the one only, sometimes in both. It is set up suddenly, and arises from peculiar occasions, which are the exhibition of an animal, vegetable, or mineral

poison. I believe that colchicum, when it destroys life, acts in this manner; and I have seen the same effects from digitalis. The same effect is also produced by prussic acid and by tartarized antimony in over-doses. The same applies to large quantities of ardent spirit suddenly taken; and in some cases to oxymuriate of mercury and arsenic.

They all seem to produce death by suddenly setting up inflammation; and not only is there a local inflammation induced, but also a most profound relaxation. It is what I call a congesto-inflammatory form of disorder: the skin is cold, the pulse is feeble, the respiration weak, and the countenance ghastly. I have seen four cases of poisoning by colchicum since I have been in London. In three cases the patients recovered. The following, however, was fatal:—A dram of the wine of the seeds of colchicum was given three times a-day, and continued after it had produced vomiting: gastritis was produced, and the patient died.

Never give colchicum, oxymuriate of mercury, or arsenic, unless absolutely necessary; and when you do, always inquire into the previous habits and idiosyncrasies of the patient.

I was asked to see an old lady who had gout; and I thought of giving her colchicum; I inquired of the medical man who had previously attended her, whether he had ever given her colchicum, and whether it had produced any sensible effect. He told me that he once gave her five grains of colchicum, and that it nearly killed her. Now, if I had not made this inquiry, she probably might have lost her life, from the exhibition of what I should have intended to be a remedy for the gout.

There is an old adage which says, that "experience is a dear school, and fools are made wise by it." To the truth of this I do not assent. In the medical profession experience is a dear school; but I believe that a certain degree of wisdom is necessary to make a man wise.

What is usually in medicine called observation should be directed to the apparent symptoms of affections during the life of the patient, and to diligent examination of the morbid appearances after death.

Experience should be directed to the effects of remedies on the conditions of which the symptoms are indications.

Both observation and experience are necessary for a medical man. He should observe and reflect at the bedside of the inhabitant of the hut, as well as at that of the peer. Having myself had an imperfect education, according to the principles of the old school, I have been in the habit of educating myself; and I can conscientiously declare that I feel every day the necessity of attending more and more to the parts of medicine which have been neglected, as well as to those which have

been comparatively well understood. I am convinced that the life of a medical man in particular should be a life of study; that a physician should let no day pass over his head without acquiring some addition to his general stock of information; that by reflection he should digest and arrange his knowledge, and make a good use of it when opportunity offers. To do good to his fellow-creatures should be his object; and I repeat that a man who is not deeply sensible of the importance of the medical profession, and powerfully interested in the welfare of his fellow-creatures, had better quit the profession entirely.

I have stated that gastritis, and the same observation applies to enteritis, is seated in two structures: in the peritoneal or in the mucous coat. It generally happens that these tunics are separately, though sometimes they are conjointly, inflamed. It is important to decide between inflammation in these different structures; and the following six are the—

SYMPTOMS OF SERO-GASTRITIS,

or inflammation of the serous or peritoneal coat of the stomach:—

1. Pain.

The pain is very distinct and severe if the inflammation be acute; but less distinct and less severe if it be sub-acute.

2. Nausea, retching, and vomiting.

This symptom is always present, especially vomiting on taking liquids, in the acute form of the inflammation; but is less severe, and in many cases absent, when the inflammation is sub-acute.

If you were to adopt Cullen's definition of this inflammation you would be led to adopt very serious mistakes of opinion, and hence to commit very serious errors of practice.

3. More or less whitish fur about the tongue.

Generally there is a slightly furred and pallid tongue. All the symptoms are less oppressive when the inflammation is sub-acute; yet then you have the comparatively pale tongue.

4. More or less disturbance of the breathing.

The respiration is hurried; and may be best compared to that of a person who has been running very fast: it is more hurried when the inflammation is acute than when it is sub-acute.

5. The pulse is small and hard.

The pulse is at the same time contracted and very hard, so as to feel under the finger like a wire pulsating. It is rapid, small, and cordy or wiry; and if you press on it you will find that it offers very considerable resistance.

6. The heat of the skin is higher than natural.

This is the case over the whole surface of the body, but especially about the epigastrium.

I shall next speak of the—

SYMPTOMS OF MUCO-ENTERITIS OF THE SMALL INTESTINES,

or inflammation of the mucous membrane of the small intestines.

There are four symptoms which are especially characteristic of it.

1. Pain.

If the inflammation be acute, the pain is very distinct; if sub-acute, the pain is mostly obscure, and is only made distinct by pressure. The pressure should be made moderately with the ends of the fingers, while at the same time the patient takes a deep inspiration.

The pain is sometimes absent. I have seen many cases where inflammation of the mucous membrane of the small intestines has been associated with a bronchial affection; and even ulceration of the intestines has occurred without any pain.

But even if the pain be absent you will be at no loss for a correct opinion if you attend to the indications afforded by the concurrence of the symptoms.

Recollect, too, that sometimes persons are afraid to confess that they have pain lest you should bleed them, from having observed that you have abstracted blood in other cases where pain has existed. Therefore, in making pressure always look at the patient's face; and if there be pain you will see an evident distress marked in the countenance. I attended several cases of puerperal fever, (as it is called,) in which all the women told falsehoods on this point. You will observe, too, if the pressure give pain, that the patient's hand will be suddenly put down to seize yours. The other symptoms are—

2. The red tongue.

The tongue is red in the centre, round the edges, at the tip; and the papillæ are red and raised, as in muco-gastritis.

3. The concentration of heat externally, over the inflamed portion of the intestine.

4. The mucous stools.

The stools which are passed contain mucus. I do not mean to say that the bowels are lax—for they are hardly ever lax if the small intestines alone be inflamed—but they are very easily moved, and there is a very large quantity of mucus passed; so that the stool moves in the vessel like thin white paint, being of a mucilaginous or oleagi-

nous consistence. Sometimes the mucus is in patches; but this is rarely the case.

As to the nausea, retching, or vomiting, you can hardly rely on this symptom.

If the inflammation be acute and extending over a large surface of the intestines, nausea, retching, or vomiting, generally occurs. But if it be confined to the lower part of the ilium, even a tolerably good appetite may remain; and it is to be remembered that the lower part of the ilium is the part of the small intestines which is most commonly inflamed.

Again, the respiration is uncertain.

If the inflammation be sub-acute the breathing is very little affected in many cases. If the inflammation be acute the breathing is sometimes hurried.

The pulse is generally quicker than natural.

If the inflammation be acute it is generally above one hundred and twenty. But if the inflammation be sub-acute the pulse will be under one hundred and twenty, till towards the last stage; and I have known several cases go on with a very slow pulse where a bronchial affection has occurred.

In inflammation of the mucous membrane of the intestines the belly is almost invariably flat. To this exceptions may occur, but they are very rare; and when they do happen, there is mostly a conjunction of muco-enteritis and sero-enteritis.

The duration of muco-enteritis of the small intestines is influenced, like that of muco-gastritis, by the degree of the inflammation.

If it be acute it runs a rapid course, generally terminating in the first five days. If it be sub-acute and limited in its extent, it usually runs a course of two or three weeks, and terminates by ulceration with enlargement of the mesenteric glands.

But very often an attack of inflammation which was acute in the onset becomes sub-acute in its progress, either from the effect of remedies or from a copious effusion of mucus.

SYMPTOMS OF MUCO-ENTERITIS OF THE LARGE INTESTINES.

The symptoms of inflammation in the mucous membrane of the large intestines differ very much, according as the upper, the middle, or the lower portion is inflamed.

If the *upper* portion be inflamed, as the mucous membrane of the caput coli, it puts on the characters of common

DIARRHŒA

and the following symptoms exist:—

1. Diarrhœa.

When diarrhœa exists with fever you may hold it as an axiom that the mucous membrane of the intestinal canal is inflamed, and generally the upper part of the large intestines.

2. Dark, loose, and offensive stools.

3. Pain.

If the inflammation be acute the pain is distinct; if sub-acute there will be a sort of grumbling, aching, uneasiness in the region of the caput coli.

4. A concentration of heat over the inflamed part.

5. Fever.

The pulse will be quicker and the skin hotter than natural if the inflammation be acute or sub-acute; and the fever is generally in the direct ratio of the local inflammation.

Besides these symptoms there will be flatulence, and a more frequent desire to make water than natural.

The inflammation, though acute in its onset, will generally put on the sub-acute character in its progress.

When inflammation occurs in the mucous membrane of the *middle* portion of the large intestines it is generally called—

DYSENTERY.

But the term 'dysentery' is one which has been, and is, very vaguely used, without any precise meaning being attached to it. The part most frequently affected in what is called dysentery is the upper part of the rectum and the sigmoid flexure of the colon. Sometimes the inflammation extends over the whole course of the colon, and is sometimes even associated with inflammation of the mucous membrane of the small intestines.

Dysentery proceeds from alternation of heat and cold; for instance, from being chilled by a cold evening after a hot day. In our armies in different parts of Spain when the soldiers slept on the ground and were exposed to great vicissitudes of temperature, it was very prevalent. Thus, also, it occurs in very hot countries, and it also arises very often in this country in summer. It sometimes proceeds from bad food, sometimes from bad water, sometimes from unripe fruits; and in most of these cases there is first a cold stage and pain in the lower part of

the abdomen, which pain is generally attended by tenderness, especially in the last stage.

The symptoms of dysentery are—

1. Tormina.

Tormina denotes a painful, twisting sensation in the bowels, generally about the navel and adjacent parts. It comes on suddenly and severely, and feels as if the intestines had a separate existence, and were writhing within the abdomen of the patient, and communicating intolerable agony to himself. The tormina is very rapidly followed by—

2. Tenesmus,

or an irresistible desire to go to stool; so that the patient instinctively leaps out of bed, careless of the presence of any one who may be with him.

3. Straining at stool.

Sometimes a little flatus passes, and at last, with great difficulty, an evacuation.

4. Mucous or bloody stools.

If you examine the evacuations you will find them mucous, or bloody, or both; in some cases mixed with fæces in small knots, but in the worst cases without any fæces at all; consisting of someting like jelly, mixed with streaks of blood. Perhaps you will find coagulable lymph.

Sometimes common diarrhœa precedes the attack of dysentery; and sometimes the discharge of mucus tinged with blood precedes it as well as attends its progress.

5. Throbbing within the belly.

The abdomen at first is not much distended; and if you press it with a moderate force throbbing will be felt in the mesenteric arteries. This may in part arise from some degree of impediment to the return of venous blood.

6. Flatulence.

7. Concentration of heat about the belly externally.

In inflammation the temperature of the surface over the inflamed part is higher than natural; and it may be so with the internal parts, so that the volume of the blood and consequently the capacity of the arteries leading to the inflamed part will be increased.

8. The urine is generally scanty and high-coloured.

The patient generally passes his urine after his evacuations, which is a very curious circumstance.

9. The tongue is generally furred.

If the small intestines be not inflamed, the tongue is not red. But

frequently the tongue in dysentery is red from the simultaneous existence of inflammation of the mucous membrane of the small intestines.

With regard to the fever in dysentery,—in some instances it is very intense; but more frequently the inflammation is sub-acute, and the pulse is not very quick, nor is the heat very high upon the surface except over the belly; the stomach, also, generally remains undisturbed after the first day or two if the large intestines be alone inflamed, and the patient craves for all sorts of improper diets. These cravings you should never indulge.

In dysentery there is always an unpleasant smell about the patient; partly from a frequent discharge of offensive matter, which, however small in quantity, adheres to the patient, and communicates a peculiar, loathsome, sickly odour.

Dysentery passes on to ulceration if it be not arrested; and patches or streaks of pus are passed with the stools.

Recollect that ulceration of the small intestines may occur to a great extent without any pus or streaks of blood in the stools. But if ulceration take place in the large intestines, you invariably can detect pus in the stools, which is a sure indication of ulceration.

The patient becomes more and more emaciated; the abdomen is drawn towards the spine, a wasting fever comes on, the mind continues calm and collected, and the patient may die in three or four weeks, or in three or four months.

When the patient dies, ulceration will generally be found to have begun about the upper part of the rectum, and to extend upward, and to appear to be concentrated at the sigmoid flexure of the colon, the coats of the intestine about which will be found to be thickened and contracted. The ulceration sometimes extends as far as the cœcum; and the mucous membrane of the small intestines occasionally becomes inflamed. In most cases you will find the mesenteric glands redder than natural. With regard to the liver there has been a difference of opinion: one set of practitioners contending that the liver is always implicated in dysentery, others that it is not affected at all. Notwithstanding this contradiction, both may be right—both sets speak from observation, but they have observed this disease under entirely different circumstances.

In Spain the liver was found not at all affected. In hot countries, I have been informed by intelligent friends of mine who have had ample opportunities of observing, the liver has been almost always found affected.

Another circumstance requires to be taken into account. If the dys-

entery occur from a common occasion, frequently the liver is not at all affected; but if it arise from peculiar occasion, as malaria or marsh effluvia, the liver will I believe always be affected, at least during the progress of the disease. I never saw a case of dysentery arising from malaria, in the progress of which the functions of the liver were not disturbed; and yet frequently no organic disease is found after death.

Sometimes dysentery does not assume an open inflammatory character; but in this country it sometimes puts on a masked or congesto-inflammatory character. The heat is not universally higher than natural, but only about the abdomen: in the extremities it is not higher, but sometimes lower, than natural. The pulse is not expanded and cordy, but soft and subdued: it is soft from the beginning, and is generally under a hundred in a minute. The respiration is feeble when it is complicated with a bronchial affection. The strength and spirits are very much depressed from the beginning. A sensation of weight and fulness rather than of pain occurs at first; but afterwards pain is felt, especially in passing a motion.

There was an epidemic at Nottingham having this character some time since: and almost all the patients died who were bled, and almost all the patients recovered to whom calomel and opium were given. There is considerable congestion about the liver, by which the blood is impeded in its return through that organ.

Some authors state that dysentery is contagious. With regard to that form which occurred in Spain it was the opinion of the medical men that it was not contagious; that is, that there was no well-proved case of its being communicated from one man to another by contact. All the individuals were exposed to the same predisposing and to the same exciting agents. Some of the medical men afterwards graduated at Edinburgh, and mentioned in their inaugural dissertations their opinion that it was not contagious, and the professors were inclined to dispute it.

When a man gets a professorial gown he sometimes seems disposed to think that his opinions are to be necessarily taken as facts; but at the present day there are a few individuals who are inclined to dispute not only their authority, but that of those who preceded them, although hitherto it has been so passively received.

If dysentery arise from a common occasion, it is not contagious. When it arises from a peculiar occasion, as malaria or marsh effluvia, I will not positively assert that it is not contagious. I feel that I require to pay far closer attention to it than I have hitherto done before I can take upon me unhesitatingly to say that it is or is not contagious. A common opinon is that if a number of individuals be affected in the

same way, one after another, the affection must necessarily be communicated by contagion; but this is not always correct. Whilst, however, a doubt remains on the subject a medical man should be cautious to prevent its progress to other individuals. Whenever the human secretions are collected even when in health, but especially when the evacuations are morbid, a state of air is generated which is confined to a certain distance and which is productive of very bad effects. Great care therefore should be taken that the secretions be removed immediately after their evacuation. Neglect of this, as I shall hereafter show, is the whole occasion of the erysipelas which occurs in the London hospitals, and affords an explanation why operations there are not so successful as they otherwise would be. It is an occasion which may be easily remedied.

Dysentery, then, is an inflammatory affection; and the inflammation may have an acute character, and the patient may die in a week or ten days from the commencement of the attack before it advances to ulceration. The inflammation sometimes puts on the sub-acute character, and proceeding a little longer assumes the chronic character (which is the most common form), and goes on to ulceration of the parts I have already mentioned. The pain, heat, and tenderness, are continued, and the tenesmus is increased as the disease is protracted: the tormina also remains. The stools have the smell of water in which putrid flesh has been washed; and sometimes, as I have already stated, it puts on a congesto-inflammatory character.

Inflammation passing on to ulceration whether of the large or small intestines sometimes winds up by an attack of acute inflammation of the peritoneum; and these attacks are generally fatal within twenty-four hours. Inflammation of the mucous membrane about the lower part of the ilium and the upper part of the colon is not attended by tenesmus.

Sometimes it happens that when the mucous membrane of the small and large intestines is inflamed, you have a bronchial affection, which if severe smothers the fever, with great general depression, and a disordered condition of the liver, the secretions of which are locked up.

With regard to the *lower* portion of the large intestines—the rectum sometimes has its mucous membrane the seat of inflammation. This is sometimes the consequence of injections used in gonorrhœa; and the most characteristic symptoms are—

1. Pain in the rectum.

The pain is increased and sometimes becomes excruciating on passing the stools, and is generally attended by the two next symptoms:—

2. Heat.

3. Throbbing.

The inflammation is accompanied by fever.

It rarely proves fatal in the acute form, but becomes sub-acute, and then chronic, and then is succeeded by abscess, and then by fistula.

The following are the—

SYMPTOMS OF SERO-ENTERITIS,

or acute and sub-acute inflammation of the serous or peritoneal coat of the small and large intestines.

1. Pain.

The pain over the region of the inflamed portion of bowel is distinct when the inflammation is acute, but more obscure when it is sub-acute. It is limited to a certain extent, so that with a pen and ink you might mark out the part which is inflamed; and it is invariably increased on pressure.

2. Nausea, retching, or vomiting.

One of these states is generally present if the inflammation be acute and extensive; but they are generally absent at the onset of sub-acute inflammation, though one or other of them always comes on in the progress of the affection if it be not subdued.

3. A furred tongue, which is comparativel pale.

4. Flatulence.

Flatulence always attends sero-enteritis. It occurs also in muco-enteritis of the large, though seldom in muco-enteritis of the small, intestines.

5. The breathing is short and quick.

6. The pulse is quick, small, and hard.

The pulse is contracted, small, hard, and quicker than natural, but not weak.

7. The skin is hotter than natural.

The abdomen is full and round; and in nine cases out of ten there is constipation. This is very remarkable. In muco-enteritis generally there is some irregular action of the muscular coat of the intestines, which usually leads to diarrhœa; but in inflammation of the peritoneal coat of the bowels there is a contrary state, leading generally to constipation.

There is greater oppression of the whole system when the smal' than when the large intestines are inflamed, especially when the serous membrane is inflamed.

Remember in cases which have the symptoms of enteritis, always to examine the groin, especially in females. I have seen several cases

during my practice in which patients, who have positively denied the existence of any swelling in the groin, have been found after death to have died of strangulated hernia.

SYMPTOMS OF PERITONITIS.

Inflammation of the proper peritoneum—that is, the peritoneum investing the abdominal muscles—has three positive symptoms, and one negative symptom.

1. Diffused pain.

The pain is diffused over the whole belly; whereas in sero-enteritis it is circumscribed.

2. The pulse is harder, more expanded, and more round than in sero-enteritis.

If the peritoneum be the sole seat of the inflammation—

3. The heat of the surface is higher than in sero-enteritis.

The negative symptom refers to—

4. The state of the stomach.

The vomiting is absent at the onset, and does not come on until towards the close of the inflammation. If you have vomiting in the beginning you are sure to have inflammation of the intestines: and peritonitis soon extends to that portion of the serous membrane which is reflected over the intestines.

The acute and sub-acute forms of these affections are distinguished by the degree of local uneasiness and constitutional disturbance.

In all these forms of inflammation there is superficial tenderness of the whole, or of a part of the belly, a symptom which I have not enumerated with the rest. You must infer from the combination of the symptoms whether the bowels or the peritoneum be inflamed.

Superficial tenderness of the belly sometimes occurs from inflammation of the spinal cord; and then it is present with the absence of all the other symptoms of inflammation of the bowels or peritoneum.

Sometimes peritonitis arises from ulceration of the bowels. The mucous membranes of the intestines becomes the seat of inflammation, and then the patient usually appears nearly well, but with a hot skin, a quick pulse, and a red tongue. Then comes on pain over the whole abdomen; the patient vomits, pants, and heaves the chest, and dies. Upon examination of the body you find ulceration in some portion of the small intestines, which has begun on the mucous membrane, and reaching to the serous membrane, has inflamed the whole peritoneum.

A celebrated surgeon, to whom the profession is very much indebted,

the late Mr. Hey, of Leeds, died of inflammation of the mucous coat of the intestines, which proceeded to ulceration through the peritoneal coat; and after death the fæces are found to have escaped into the cavity of the abdomen.

Gastritis, Enteritis, and Peritonitis have two stages.

In the first, which is a stage of excitement, there is pain on pressure, with a pulse not only quicker but harder than natural, with a hot skin, with a respiration hurried but not weak, and the stomach will not be so much irritated as in the last stage.

After a time the pain entirely ceases; and in these cases if you do not pay attention, you might be led to suppose that the patient was recovering; but if you watch the patient you will have no difficulty in perceiving that the case is hopeless. This is the stage of collapse.

In this state, in which the patient has a cessation of pain, there is a passive gulping from the stomach, in consequence of the intestines being over-distended with gas, which makes its way through the stomach and œsophagus. This passive gulping is always a fatal symptom. I never knew a case in which after it had occurred the patient recovered. The countenance falls, and the eyes are much sunk; the skin is cold and clammy, at first in the extremities, and then over the whole trunk; the breathing is gasping; the belly becomes tighter and tighter; and the patient lies on his back with his legs drawn up, which is generally the case in all examples of abdominal inflammation. In these cases it is usually said that the patient dies of mortification of the intestines; but mortification of the intestines is a very rare occurrence. The patient dies of the irritation conveyed to the nervous system, and through it to the heart, brain, and lungs, in a way which you will find admirably described in Bichat, in his work "Sur la Vie et la Mort." In some cases I have known the pulse sink to sixty in a minute before death; but it generally becomes quicker and quicker, and is faint and faltering compared with the first stage.

The diagnosis of these affections is commonly very easy to one who has previously watched them at the bedside of the sick. Now, with respect to the—

DIAGNOSIS BETWEEN MUCO-GASTRITIS AND SERO-GASTRITIS,

you must attend to the following points:—

1. The tongue.

In muco-gastritis the tongue is vividly red at the tip and a short distance round the edges, or it has a fiery streak down the middle; the colour is of a vermilion or a cherry hue, compared with the natural

colour. In sero-gastritis the tongue is pale, and only covered with a slight whitish fur.

2. Sense of internal heat.

In muco-gastritis, when the inflammation is acute, this sense of internal heat is distinct; and is present though in a slighter degree in sub-acute inflammation. But in sero-gastritis it is absent.

3. Desire for cold drinks.

This desire is far more urgent in muco-gastritis than in sero-gastritis.

4. The pulse.

In muco-gastritis the pulse is soft and compressible, sinking under the finger like soft silk. In sero-gastritis the pulse is small and hard.

Hence, then, you will be at no loss for a diagnosis between these two affections, of which the other symptoms are mostly common to both. With respect to the—

DIAGNOSIS BETWEEN MUCO-ENTERITIS AND SERO-ENTERITIS,

you must attend, according to its seat, to the following points:—

In inflammation of the

SMALL INTESTINES,

attend to—

1. The tongue.

In muco-enteritis the tongue is red at the tip and round the edges, or down its centre, as in muco-gastritis; but not so when sero-enteritis occurs.

2. The pulse.

In muco-enteritis the pulse is soft and compressible. In sero-enteritis it is small and hard.

3. The condition of the bowels.

When the mucous membrane of the small intestines is inflamed, the bowels are easily moved by the mildest purgatives. In sero-enteritis of the small intestines the constipation requires the use of harsh purgatives, if you use any at all; for which, in fact, there is no need, and it ought not to be done.

4. The state of the abdomen.

This is a very remarkable circumstance. In the progress of muco-enteritis the abdomen gets flatter and flatter: the navel is drawn inward towards the spine, and the integuments are dry, tense, and withered, somewhat like parchment. In the progress of sero-enteritis the belly becomes more and more round.

5. The breathing is less disturbed in muco-enteritis than in sero-enteritis.

Again, inflammation of the mucous membrane of the—

LARGE INTESTINES

is easily distinguished. If the upper part of the colon be inflamed you have a diarrhœa, the stools being fæcal, loose, and frequent, with fever.

When the sigmoid flexure of the colon and the upper part of the rectum are inflamed, it puts on the characters of dysentery; and you have tormina, tenesmus, and straining at stool, with mucous, slimy, and bloody evacuations.

When the rectum alone is the seat of the inflammation you have excruciating pain referred to the rectum; with heat, and throbbing, especially on passing the evacuations.

DIAGNOSIS OF PERITONITIS.

You will distinguish it by the—

1. Pain, which in peritonitis is universally diffused, while in enteritis it is limited. You will have—

2. The fever, too, in peritonitis present in a higher degree than in enteritis; and in the onset—

3. The stomach is quiet in peritonitis.

But suppose the peritoneum investing the abdominal muscles were inflamed together with the intestines, then you would have vomiting occurring in the onset, with pain over the whole surface of the abdomen.

LECTURE XXIII.

COMMON INFLAMMATORY FEVER.

SYMPTOMS AND MORBID ANATOMY OF INFANTILE REMITTENT FEVER.—PATHOLOGY OF DIARRHŒA.—SYMPTOMS AND PATHOLOGY OF CHOLERA MORBUS.—SYMPTOMS AND DIAGNOSIS OF INFLAMMATION OF THE LIVER, KIDNEYS, AND URINARY BLADDER.

In this lecture I shall first call your attention to the—

SYMPTOMS OF INFANTILE REMITTENT FEVER.

This term is in the mouths of many modern physicians, because it is written by many old authors, who have put down in many old books that certain pills, boluses, draughts, and mixtures, therein ordered, are to be given. And these remedies are given for no better reason than that there is a precedent for such practice. Can anything be more absurd? Men have been roasted alive sufficiently often to form a precedent which we have no inclination to follow in these days. What are precedents? They are either true or false; and it is the business of modern philosophy to despise from the bottom of her soul all falsehood, to get rid of the *speculative*, because they involve *practical*, errors; and only to follow precedents when they are true and useful. We have precedents enough to be guided by in courts of law; but there is no reason why we should be so guided in physic. We are ourselves the legislators, and must draw the rules of our conduct from a legitimate observation of nature; and when we find that systematic writers are wrong, it is our business to protest strongly against their errors. Let us then follow common sense, and reject arbitrary rules, and we shall find that what is called infantile remittent fever is nothing more than inflammation of some portion of the intestinal canal, with, generally, some torpor of the liver. This affection has also been called in England the worm fever, in Wales the leek fever, in Scotland the bun fever, and in Ireland, of course, the potato fever. Upon the whole the three latter terms are better than the term infantile fever, because there is something precise in a leek, in a bun, and in a potato. Seriously,

I would that such absurd names were entirely erased from the works of modern writers; for the term infantile remittent fever means nothing more than that this disease sometimes has remission; the term worm fever merely indicates that it may be implicated with worms; and the bun fever of Edinburgh is supposed to occur from eating a rich cake which is sold at that time of the year when these diseases most commonly prevail.

This term, infantile remittent fever, is one of those abstract phrases under which mental creations of different individuals are classed. The truth is, that there is a medical mythology as well as there was a heathen mythology at Rome of old; and there is no reason why modern nosologists might not have certain figures in statuary so as to embody their notions in the shape of something tangible and visible.

This mere external pathology, if it deserve even that name, is perfectly absurd and highly dangerous, because it implies a conjecture—a something which is neither tangible, visible, nor perceptible by any of the senses—is supposed, and is called by a certain name; for which name certain treatment is prescribed. You may have seen a dog in a wheel turning a spit on which a leg of mutton is roasting. Now the nosological practitioners and writers exactly resemble this dog. No one has done so much mischief with respect to the profession of physic as Cullen has; and it is my amazement to know that his absurd system yet obtains in medical examinations. No man at all versed in modern pathology attends to such a system of crudities and errors. It obtains only in the shades of men's closets or in the cloistered walls of schools and colleges. But the rising generation will, I trust, put an end to all such lingo and legerdemain.

If you investigate the history of cases of what is called infantile remittent fever, you will generally find that they are preceded by what are equally vaguely and absurdly called, in children marasmus, and in adults dyspepsia.

For instance, in children you will find that before the attack the tongue was furred, the belly was round, the bowels were irregular, the skin was pale, and the child was frequently picking its nostrils. In one case there is irritation of the mucous membrane of the stomach; in another irritation of the mucous membrane of the small intestines, generally associated with a deficient or a depraved secretion of bile and a torpid state of the colon. The child has become fevered, and the fever has distinct exacerbations; and hence, though erroneously, it has been called the infantile remittent fever.

In truth, this remittent fever may be either simple or inflammatory.

If it be simple, though there is increased action in every part, yet the most diligent examination will not enable you to detect inflammation in any one part.

Sometimes the irritation is created by scybala in the colon, amounting to what I call local simple excitement. Far more frequently you find some traces of inflammation, which in most cases is sub-acute: in some instances in the mucous membrane of the stomach: in most instances in the mucous membrane of the ilium, at the lower part; and in some cases both the ilium and the colon are inflamed. You must look, then, generally speaking, to the condition of the mucous membrane of the alimentary canal for the pathology of that affection which has been called the infantile remittent fever.

Sometimes the liver is affected, but generally it is disordered secondarily.

In some cases there is inflammation of the mucous membrane of the air-passages; generally at the same time with inflammation of the mucous membrane of the intestinal canal.

It is extremely common in this affection to find that in the progress of it, especially in very young children, convulsions occur from disorder of the brain.

I lately saw three cases (to which I referred in the last lecture) in one family, in which there were distinct symptoms of ulceration of the intestines; but when I visited them, there was no indication of any disease in the brain, nor did any such symptom occur till twenty-four hours before death. At that period it was announced by restlessness, by great distress depicted in the face, by inconsistency of character, by slight contraction, by twinkling of the eyes, by general convulsions, by dilated pupil, by a noise in the breathing, and by the other symptoms which commonly attend an attack of convulsions.

You will find that these affections sometimes take place suddenly; but sometimes they arise more insidiously. You must, therefore, investigate carefully and minutely the progress of each case.

The stomach being the seat of the affection, the inflammation, which is generally of the sub-acute kind, is denoted by pain on pressure in the epigastric region; by a remarkably vivid redness on the tip of the tongue, and extending some way round its edges. These are two of the most remarkable circumstances attending this disease. Generally there is a loathing of food; and nausea, retching, or vomiting, are sometimes observed.

If the inflammation exists in the mucous membrane of the small intestines, it is, in the great majority of cases, seated in the lower part of

the ilium; and then you have the same vivid redness of the tip of the tongue, extending round the edges; the papillæ are more distinct than natural. You will observe that there is pain on pressure lower down than when the inflammation is seated in the stomach. If you examine the stools you will find they contain more mucous than natural, so that they resemble thin oily paint in appearance. Sometimes you discover mucous in patches. In this form of the disease nausea, retching, or vomiting, rarely occur; if they do, not only the ilium, but the stomach and the small intestines adjacent to it are affected.

When the inflammation is situated in the large intestines, almost always the upper part of the colon and the lower part of the ilium are the portion especially affected. Here you have the same peculiar appearance of the tongue and the same pain as in inflammation of the small intestines; and you have likewise a discharge of muddy, loose, offensive, feculent matter from the bowels. Offensive discharges occurring in what is called the marasmus of children generally depend upon this condition.

Sometimes it happens in these cases that the colon is very much obstructed; and hence may arise the fever. In this case the bowels are hard and distended; and the patient perhaps passes scybalous motions: so that if they be poured from one vessel to another, part appears loose, but now and then hard lumps are rolling with the fluid into the receiving vessel.

The only certain symptom of inflammation of the liver is pain on pressure in the region of that viscus. Many other symptoms have been mentioned as diagnostic of it; but this is the only one on which any reliance ought to be placed. This inflammation is usually accompanied by a pulse quicker and a skin hotter than natural. The stools will show a deficiency or a depravity of the bile, while the urine exhibits a tinge of the bile.

When the intestinal canal is inflamed, the liver getting torpid secretes either too little, or vitiated bile; and in some cases it is actually inflamed simultaneously with intestinal inflammation.

This fever generally abates towards morning, and from thence increases towards night; whence the name infantile *remittent* fever. You will almost invariably find the pulse quicker than natural throughout the twenty-four hours. From four to eight in the morning it will be rather slower, but increases in frequency toward the evening: the skin then becomes hot and the face flushed.

From the sympathy which exists between the skin and the mucous

membranes of the intestines the child picks its nose and other parts of the face; sometimes so much as to pick holes in the skin.

The urine is sometimes scanty and turbid, but often copious and pale.

This disease is occasionally, but very rarely, complicated with peritoneal inflammation. Sometimes it comes on after a child has been previously much wasting, and then it is mostly complicated with organic disease, and the peritoneum after death is found studded with tubercles: but not if the child have only complained for a few days.

In the progress of this disease the child becomes more emaciated; the skin becomes more and more withered, dry, and husky; the belly is tightly drawn towards the spine, and becomes flatter and flatter, with this exception, that if the peritoneum covering the parietes of the abdomen be inflamed, the belly becomes more and more round; the stools become more and more offensive, and smell like the washings of putrid meat, which they resemble also in appearance. The child is liable to discharges of blood from the intestines, or of pus mixed up with the stools. The eyes, the temples, and the cheeks, become remarkably hollow, and the cheek bones prominent; and at length the child dies under a state of extreme emaciation. The hollow eyes and hollow cheeks may exist independently of ulceration; but taken in conjunction with the state of the pulse, of the skin, and of the stools, it is a most alarming appearance.

MORBID ANATOMY OF INFANTILE REMITTENT FEVER.

On examining the body you will generally find, first, the mucous glands enlarged: then the mucous membrane puckered; and then ulceration. You will frequently find the liver gorged with blood, and a venous or arterial tree in the mesentery. You will also, perhaps, find the mesenteric glands redder and larger than natural. When the disease was preceded by much emaciation, you will generally find the glands filled with curd-like pus. Of this, after a time, the child would generally have died. You find the pleura and also the peritoneum studded with tubercles, and the lungs likewise filled with tubercles. Children who have a tuberculated condition of the peritoneum generally die with a distended belly; and on rubbing your finger over the abdomen you may feel these small knots externally. I have seen a case in which there were hundreds of tubercles very universally disposed on the peritoneum. Sometimes they are formed independently of inflammation; hence, in the case which I have just alluded to, in many parts the peritoneum on which the tubercles were situated was quite transpa-

rent, while in other parts of it each tubercle was surrounded by an areola, the tubercle being thus, as it were, the centre of inflammation.

It sometimes happens that in this affection you find effusion into the ventricles of the brain; and if you learn the history of the case, you will find that the head had been affected in its progress. The head may be affected in the onset, or in the middle, or at the close of the disease. Systematic writers say that infantile remittent fever is similar to hydrocephalus internus. This is very absurd, and shows a want of thought. You will find adults attacked with the same sort of fever, attended by the same symptoms as in children. In one individual you will find the mucous membrane of the stomach affected, in another the small intestines, in another the large intestines, &c.

There are some other important affections of the intestinal canal of which I shall speak. The first of these which I shall mention bears in its pathology a very close resemblance to infantile remittent fever; it is what is vaguely termed diarrhœa. With regard to the—

PATHOLOGY OF DIARRHŒA,

or looseness, or laxness as old women call it. Now there are five different conditions upon which diarrhœa depends; and they are the following:—

1. Retention of scybala in the colon.

If retention of scybala, and a consequently overloaded state of the colon, occur in children or delicate females, or even in male adults of sedentery habits, it is very liable to bring on diarrhœa; therefore always investigate the history of the cases of diarrhœa to which you may be called. On examining the abdomen, if it be not much loaded with fat, a hard irregular feel may be distinguished in the course of the colon, with an indistinct uneasiness. The stools if examined will be found to be loose and watery, and to contain lumps of scybala which settle to the bottom on pouring off the fluid from one vessel to another. If an individual neglect to have the bowels relieved daily this overloaded state of the colon may go on for a great length of time; and the irritation may extend to the small intestines, unless, at last, the peculiar diarrhœa I have described comes on.

2. Offending ingesta.

Some offending food or drinks, for example, may produce it; or some fruits containing indigestible seeds, skins, or husks. This is a very common form of diarrhœa, especially in the summer: the sensibility of the mucous membrane of the stomach being then increased by the increase of temperature, and rendered more susceptible of the operation

of stimulant or irritant substances. It is frequently produced in children by certain medicines, such as saline and antimonial mixtures. I have frequently seen these medicines create diarrhœa; they produce a condition of the mucous membrane of the intestines, which is what I call local simple excitement, and which verges on inflammation; and yet these medicines are often prescribed and administered without either rhyme or reason.

3. Congestion of the liver and mucous membrane of the intestinal canal.

This is most common in cold weather. An individual goes into the cold air from a warm room, and suddenly feels chilled; his skin is contracted, putting on the appearance of what is called cutis anserina; the pulse is feeble; rumbling in the bowels occurs, with a desire to go to stool; and then the patient passes a copious evacuation. This arises from the loss of balance in the circulation; the blood retiring from the surface becomes collected about the internal parts, more especially about the liver, so that the vessels which go to form the vena portæ are greatly distended, and the diarrhœa is the natural effort to relieve the internal congestion. Upon the same principle diarrhœa sometimes arises from depressing mental emotions, as fear. It is very well known that sailors, in many instances, before a sea-fight, are liable to this sort of diarrhœa.

4. A superabundant secretion of bile.

This is what may strictly be called a bilious diarrhœa. It is commonly met with in summer, and then the stools are yellow, like gamboge; but sometimes, from the effects of acids, the stools are not yellow, but green. Sometimes it arises in this way from mental emotions, as anger, which seems to operate almost like electricity. This probably depends upon an inequality of the distribution of the nervous fluid; for observe how bright are the eyes, and what energy of body and of mind is expressed, compared with the unexerted condition of the mind and body. These bilious stools, when acrid, are sometimes the cause of inflammation.

Diarrhœa sometimes arises from—

5. Inflammation.

Whichever of the above-named conditions or causes diarrhœa may arise from, you should investigate it carefully, to ascertain whether it has, as is very often the case, become complicated with inflammation in its progress.

Sometimes diarrhœa will go on for a very long time, and in this case inflammation generally is at the bottom of it.

I saw a man who for a long time had been troubled with diarrhœa, which went on to extreme emaciation, but he afterwards recovered. This was a case of mere simple excitement.

A man who was very stout had a diarrhœa for months, to the extent of five or six stools a-day, like scraped slate and water, so that he became much emaciated, and was the mere skeleton of his former self. This occurred from the colon being plugged up with scybala.

In another case, in the stools of a patient who had long had diarrhœa, I found pus, the consequence of ulceration from inflammation.

I have never met with but one case of inflammation of the caput coli in which diarrhœa did not exist. Diarrhœa does not attend inflammation of the mucous membrane of the small intestines unless the large intestines are affected also.

What old nurses commonly call in children the watery gripes, is generally extensive inflammation of the mucous membrane of the intestinal canal, with considerable collapse.

The colliquative diarrhœa occurring in the last stage of consumption is, as far as I have observed, invariably an inflammatory form of diarrhœa. There is always inflammation, and generally ulceration, in the ilium ; or rather, both inflammation and ulceration in the lower part of the ilium and in the upper part of the colon.

You will perceive then how important it is to draw distinctions as to the different origins of apparently the same effects, because the treatment may require to be very different according to the condition which gives rise to the symptoms.

It frequently happens that diarrhœa precedes an attack of inflammation : this is very often the case with respect to dysentery. This points out an important inference, which is, that whenever diarrhœa occurs it should be attended to in the onset. I would have you to be not only medical practitioners but medical philosophers. Unless you have distinct evidence of the causes of symptoms you ought not to prescribe for them ; for if you order remedies for the symptoms without investigating the conditions upon which they depend, you prescribe at random, and your practice is nothing more or less than downright quackery.

SYMPTOMS OF CHOLERA MORBUS.

Another affection connected with certain morbid conditions of the mucous membrane of the intestinal canal is what is called cholera morbus.

This is a perfectly absurd abstract word ; and yet in the books of nosological writers a distinct and regular plan of treatment is adopted for that word. But it is not invariably the same condition. The

patient has vomiting and purging at the same time, accompanied by griping pains in the bowels, and very often by spasms in the gastrocnemii muscles, and in very severe cases by spasms in other parts. These are all the symptoms which denote cholera morbus.

But these symptoms arise from different remote occasions.

They are more especially connected with climate. It is far more common in hot countries, as in India, than in temperate climates. It is far more common in this country in the summer and autumn than in winter. Like dysentery, it often proceeds from alternations of heat and cold, sometimes from heat alone.

You may generally trace the attack to something taken into the stomach, such as milk, sour drinks, porter, hard water, damaged bread, melons, mushrooms, oysters, lobsters, veal, pork, pickles, or the like.

According to the nature of the remote occasion it arises with a cold or a hot stage.

Sometimes, though not universally, it arises from peculiar agents, as for example, in India. It will travel as it were down one side of a river, and then crossing over will return up the other side of the river passing over one village and almost depopulating the next. The probability is, that this is connected with malaria; or perhaps with some other condition of the air which is not yet cognizable to our senses.

The army under the command of the Marquis of Hastings, in India, was encamped in a low situation, and a great many of the soldiers were attacked with cholera morbus. It struck the Marquis that it arose from some noxious emanation from the ground where the army was situated. A consultation was held, and, though opposed by the medical men's opinions, the army was removed to a higher situation, and then the cholera morbus ceased to make its ravages among the soldiers.

A friend of mine, in command of a vessel, was remarkably distinguished for common sense, and on reaching Ceylon he inquired naturally about the health of the place. He found that on board a ship lying near him the effects of cholera morbus were frightful; the men were every day (as he expressed it) dying like dogs. My friend cast his eye about and observed that not far distant there was a marsh, and that the wind was blowing in the direction from that marsh to the ship. He therefore altered the situation of the ship; did not allow his men to be upon deck very early, and none but himself was there very late at night, nor did he allow his men to get intoxicated. He paid also strict attention to the diet, and the result of his caution was, that while in the next ship nearly all the men lost their lives, he had not a sick individual on board. In pursuing the—

PATHOLOGY OF CHOLERA MORBUS,

I shall prove that it occurs under various conditions, and consequently requires different treatment; and I may observe that whether it arises from common or peculiar occasions, there are three different pathological conditions upon which the symptoms which constitute the so-called cholera morbus depend. One form might be called—

1. The congestive; or congesto-inflammatory.

This is the most formidable kind of cholera, which has been so fatal in India, and it is a form of the affection which sometimes occurs in this country. There are all the symptoms which I have enumerated in this form of cholera. The two most usual circumstances are vomiting and purging of a watery mucous fluid; and there is considerable thirst, with tormina, tenesmus, and spasms, mostly seated in the calf of each leg, sometimes in the thighs or arms, and sometimes, though very rarely, over the whole body. The evacuations are more like rice-water, or thin gruel, than any thing else, and are passed in great quantities, even as much as a gallon at once. There is no bile in the stools; and there is a purple or leaden colour, indicating a bronchial affection. In the congestive form of cholera morbus these symptoms occur with an universally cold skin, with a feeble pulse, and with a weak respiration: and will any one say that this is like the other form of cholera? In this state, in India, the patient has died in a few hours. From the symptoms I infer that there is a congestion, principally about the liver and the mucous membrane of the intestines; and I believe that an affection of the mucous membrane of the air-passages is almost always complicated with it. It is influenced very remarkably by the condition of the stomach, of the bronchia, of the heart, &c. A reaction or excitement occasionally takes place in these cases a few hours before death; and then you have not only signs of congestion in the liver, but signs of inflammation of the mucous membrane of the bowels on examination of the body. If excitement take place about the abdomen, and the limbs continue cold, the case puts on a congesto-inflammatory character. But sometimes an entire state of excitement is set up.

Another form might be called—

2. The simple excitive: or the cholera morbus of simple excitement.

In this form there is a copious secretion with vomiting and purging of bile. The liver and the mucous membrane of the intestines are preternaturally excited. If you give incautiously antimonial emetics, with harsh purges, &c., you will frequently induce an attack of this kind. It is denoted by a copious secretion of bile, with no fever. This is the

most common form of the affection in this country: there is a gush of bile from the liver, or there is a gush of mucus from the bowels.

Dr. Johnson, the author of a valuable work on the affections to which Europeans resident in tropical climates are subject, and editor of the Medico-Chirurgical Journal, first pointed out that there is a deficiency of bile in the cold stage of cholera morbus.

Those cases which are attended by a copious efflux of gall from the liver are far less dangerous than others.

The next form of cholera morbus is—

3. The inflammatory.

The inflammation is seated either in the liver or in the mucous membrane of the bowels, and very often in both. I have seen a great many cases of cholera morbus in this country where inflammation of the mucous membranes has been distinctly traced, either in the stomach or in the large or small intestines. Such inflammation you would easily detect by attending to the symptoms which I mentioned in my last lecture.

If we consider that these three forms of disease have been treated as one affection, can we be surprised at the mortality which has attended it? When men prescribe for a mere name, for a nonentity, can we wonder that their practice is not successful? But the truth is, that a most terrible fatality follows the nosological method of investigating disorders; and a strong objection which I have to the Nosology of Dr. Cullen is, that in compiling it he has not sufficiently attended to the pathological conditions on which disorders and diseases depend. No physician should be at a loss when he is called to a patient to say, after due inquiry, what organ is affected, and, as it were, to lay his finger over the part which is the seat of the complaint.

The next affection of which I have to speak is sometimes connected with the affections to which I have already alluded; but sometimes it exists separately, and then the—

SYMPTOMS OF HEPATITIS,

or acute and sub-acute inflammation of the liver are the following. The most correct diagnostic symptom is—

1. Pain on pressure.

Pain will be felt on pressure in the region of the large or the small lobe of the liver. Recollect that you should always be sure to make pressure in the region of the small lobe, which is sometimes the sole seat of the inflammation. Most frequently it happens that the inflammation is sub-acute, and the patient will very often tell you that he has no pain; and only by pressure will the presence of pain be detected.

You should apply moderate pressure, telling the patient at the same time to take a deep inspiration; and if there be inflammation you will find that he winces.

Acute or sub-acute hepatitis is denoted by—

2. Some degree of fever.

The fever is less developed than might be expected: it is very often but slight, the skin not very hot, and the pulse not very quick; and entirely absent when the inflammation is chronic. The patient very often has alternate indistinct heats and chills, which may occur when there is no suppuration. And when suppuration does arise the patient generally has hectic fever with great emaciation. Frequently before an abscess forms there are distinct chills, succeeded by hot fits, and these by copious perspirations. Sometimes the patient, especially an old person, dies before abscess forms, and then you discover the common appearances of inflammation. In this country the peritoneal coat of the liver is more frequently attacked than its substance; in the one case the pain is more acute, in the other more obscure.

These two symptoms concurring are certain indications of acute or sub-acute inflammation of the liver. Other symptoms are not certain; yet there are certain circumstances which may be taken into account as collateral evidence.

3. The stools are generally deficient in bile, or indicate a depravity of the secretion of bile; being lighter than natural, like clay, or darker than natural, or like tar or spinach in appearance.

Another guide you may sometimes have is—

4. The urine; which most frequently is scanty and contains bile.

The urine has the deep yellow colour of an infusion of saffron when the quantity of bile in it is slight; but if the bile be in large quantity then the colour of the urine is like that of London porter; linen dipped in it and dried retains a deep yellow stain.

5. There is a dirty, yellowish-white fur upon the tongue; and that—

6. The skin is of a dirty hue, or of a slightly bilious hue. So, too, the colour of—

7. The conjunctiva generally is bilious or of a dirty hue.

8. Vomiting sometimes attends inflammation of the liver, and then the patient generally vomits a greenish or yellowish matter; but sometimes it is absent.

And when it happens that the patient vomits you should investigate the cause of that symptom. It generally proceeds from, except, of course, when it arises from the operation of medicines, and when it

arises from pure exhaustion,—and is symptomatic of, some disorder either in the head, in the stomach, in the bowels, or in the liver.

9. Hiccup sometimes attends inflammation of the liver, but it sometimes is absent.

Hiccup arises, too, from other causes besides hepatitis: sometimes from an affection of the brain, of the stomach, or some morbid condition of the liver not amounting to acute or sub-acute inflammation.

10. Pain at the top of the shoulder is sometimes present, sometimes absent, but is more frequent in chronic than acute inflammation; and sometimes also there may be—

11. Pain about the scapula. A more constant symptom of this affection is that—

12. The patient cannot lie on the left side from a dragging pain which that position produces.

This is not always the case, but it is a very common occurrence. The patient generally lies upon his back.

13. Pain, or weight, or other uneasiness in the forehead is sometimes present, sometimes absent.

14. Cough and uneasy and disturbed respiration are sometimes present, especially when the convex surface of the liver is inflamed; and they generally arise from an affection of the pleura existing at the same time. Sometimes the breathing is perfectly natural. If the hepatitis be not complicated with some bronchial affection the cough is dry.

15. Depression of spirits almost invariably occurs in this affection.

Sometimes spontaneously or by the action of remedies acute or sub-acute hepatitis is subdued, and a state of chronic inflammation of the liver is left; and persons who have suffered two or three attacks of the acute form are very likely to have chronic hepatitis if they do not pay very strict attention to the diet. A good rule in internal inflammation is to bleed the patient, if possible, till the inflammation is entirely, or very nearly, removed. Recollect to give strict injunctions as to diet, &c. during, and for a considerable time after, convalescence.

A high temperature may occasion a return of hepatitis; and the same effect may be produced if the patient be chilled by neglect of clothing, or in any other way. So from taking a long walk, or sustaining any great mental anxiety, a relapse may occur: but, above all, I repeat that if the patient be careless with regard to the diet, he is very liable to have chronic inflammation of the liver, which may go on to disorganization of its structure.

It very often happens that the liver is inflamed at the same time with the mucous membrane of the bowels; and not only are these parts very

often thus inflamed in combination, but when the liver is affected it very often influences the mucous membrane of the bowels; and, *vice versâ*, when the mucous membrane of the bowels is inflamed it very often influences the liver; for the vena portæ, when the liver is inflamed, being in such condition that the blood circulating through it is retarded in its course, it necessarily happens that the veins of the intestines are over-gorged.

DIAGNOSIS OF HEPATITIS.

There are only two affections which can be confounded with hepatitis, namely, pleuritis and gastritis.

I. FROM PLEURITIS.

I cannot think how it is possible to mistake hepatitis for pleuritis, although by systematic writers the diagnosis is said to be difficult. In hepatitis you have no difficulty of breathing, although you have irregular and anxious breathing. The seat of the pain in the two affections is different. Press in the region of the liver, and you feel at once that the pain is there.

When the peritoneal coat of the liver is inflamed the pleura is sometimes inflamed also; and then you will have symptoms of the two affections conjoined.

II. FROM GASTRITIS.

In gastritis you have sometimes vomiting, and when it does occur it is continual; and there is pain in the region of the stomach. The vomiting in hepatitis occurs only occasionally. The pulse under gastritis is small and rapid; in hepatitis it is generally under one hundred in a minute, and never small and contracted.

OCCASIONS OF NEPHRITIS AND CYSTITIS.

The predisposition to inflammation of the urinary organs is often hereditary. It is not uncommon in gouty subjects, in persons with a delicate state of the skin and mucous membranes, and in persons with very irritable minds. In the irritability which is induced by night-watching there is often uneasiness in the region of the bladder, and frequent desire to make water.

The predisposition to these affections is also sometimes acquired by errors in diet and drinks, as by the exhibition of acids and strong drinks of various kinds. So likewise from an overloaded state of the colon the functions of the urinary organs are very often deranged.

The remote occasions which I have already described produce acute or sub-acute inflammation of these as well as of other organs which are predisposed. One of the offices of the kidney is to guard the body from the ill effects of internal congestion.

Inflammation of the kidney is often produced by cold applied to the body, and by heat especially when combined with exercise. I have known many cases of nephritis arising from a long walk on a hot day. Errors of diet, the abuse of spirits, &c. sometimes lead to nephritis, and turpentine given in large doses will almost always induce an attack of it. Cantharides generally operate in the same way. A blister applied in the region of the kidney will sometimes induce nephritis at once. Saline aperients in large and repeated doses may produce, or at any rate predispose to it. I have seen a case in which I think it is probable that it arose from a habit of taking a dose of salts daily. Blows in the region of the kidney produce nephritis, frequently chronic in the first instance, but winding up in acute or sub-acute inflammation. A difficult labour may occasion cystitis. A stone in the kidney or bladder is no uncommon occasion of inflammation in either of these situations. The kidney and bladder may both be inflamed by that sympathy with disorder of the stomach, liver, or bowels, which I have before mentioned; and then, with obscure pain in the back, the urine is scanty, and generally deposits a pink sediment. This occurs, for instance, in delicate females, with a furred tongue, a fretful temper, and depressed spirits; and if neglected proceeds until chronic inflammation is established; upon which acute attacks may supervene, or the structure of the kidney may be insidiously undermined. Gonorrhœa may produce inflammation of the kidney and bladder. It mostly affects the mucous, but sometimes the peritoneal, coat of the bladder; and sometimes the inflammation extends to the adjoining parts, as the rectum, &c. I have seen a case in which gonorrhœa distinctly induced an attack of inflammation of the peritoneum. Too long retention of the urine may produce cystitis; and a stricture in the urethra may lead to the same effect. Tumours pressing on the kidneys or bladder, or an overloaded colon by its pressure, or enlargement of the prostate gland, or a stone sticking in the urethra, or the introduction of a bougie or other instrument, may all occasion either cystitis or nephritis.

SYMPTOMS OF NEPHRITIS.

Acute or sub-acute inflammation of the kidneys is denoted by the following symptoms:—

1. Pain in the region of one or both kidneys.

Generally only one kidney is inflamed. Sometimes the pain first attacks one kidney, and then, leaving that, attacks the other. You must, in order to detect the tenderness, make pressure at the same time from the loins and from the abdomen, the patient being desired while you do so to take a deep inspiration. The pain is increased by coughing or sneezing.

2. Fever.

The pulse is quicker and the skin hotter than natural.

The pain generally follows the course of the ureter, or shoots to the testicle, or more or less down the thigh; or there is retraction of one of the testicles.

Retraction of the testicles also attends irritation of the prostate gland. I saw a case in which the patient complained of occasional attacks of pain in the back, accompanied by retraction of one testicle.

There very often is numbness of the thigh on the affected side.

If the inflammation be acute the pain and fever are acute; if subacute they are not very urgent, and sometimes there is a remission in the morning.

Sometimes the pain of the back suddenly subsides; and then on examining the urine a large quantity of pus is found in it, and continues to be discharged for some days. The patient frequently recovers; and after death the kidney is found reduced to a mere capsule.

Always examine the urine by filtering it, and in it you will sometimes detect small stones.

These, then, are the usual diagnostic symptoms of nephritis, together with one other, which is—

3. A more frequent desire to make water than natural.

Usually the urine is scanty and high coloured, depositing a pink sediment. Sometimes it is copious and of a natural colour, especially in relaxed habits.

Sickness is sometimes present, but far more frequently it is absent. Sometimes there is loathing of food, or nausea.

DIAGNOSIS OF NEPHRITIS.

I. FROM LUMBAGO.

In nephritis when it becomes chronic it generally happens that fever is absent, and in lumbago there generally is no fever. But in very rare cases lumbago is a part of rheumatism, attended by fever and pain in other parts of the body.

In lumbago the pain is an aching or numbness, excessively severe

on motion, as on rising up or on lying down. Besides which, all the other peculiar symptoms of inflammation of the kidneys are absent.

Lumbago is the only affection you could easily confound with inflammation of the kidneys; but as other affections are said to be capable of being confounded with nephritis, I shall point out the diagnosis of them.

II. FROM HEPATITIS.

This inflammation might be taken for nephritis, for the liver is sometimes inflamed at its root. Trace the large lobe of the liver from the sternum back to the spine, and then you will easily ascertain whether any part of the liver is inflamed. The urine and the stools also will lead to a correct diagnosis.

III. FROM OVERLOADED COLON.

An affection far more likely to be mistaken for inflammation of the kidney is an overloaded colon, in which spasmodic affections of the bladder and violent pains of the back often occur. The overloaded state of the colon is generally relieved by a spontaneous diarrhœa; the stools are usually mud-coloured, and in pouring them from one vessel to another you will observe that they are divided into a solid and a fluid portion. There is also a hard uneven feel in the abdomen, accompanied by fever. Sometimes, however, this state exists simultaneously with nephritis.

With regard to acute or sub-acute inflammation of the bladder or cystitis, it may occur in, and be confined to, either the serous or mucous membrane of the bladder.

SYMPTOMS OF SERO-CYSTITIS.

If the serous membrane of the bladder be inflamed it is generally denoted by strangury; by the urine not being clouded, nor containing any mucus; by pain in the region of the bladder; and by fever.

SYMPTOMS OF MUCO-CYSTITIS.

When the mucous membrane of the bladder is inflamed a burning smarting pain generally occurs, and the urine contains first mucus, and then blood. There is frequent and painful desire to make water, with or without ability to pass the water. The bladder is distended, but sometimes the urine dribbles away. Sometimes it is accompanied by tenesmus.

I saw a lady labouring under acute inflammation of the bladder, and the urine at first contained a large quantity of mucus, and then blood. She was unable to pass the urine, and from distention of the bladder the pain became excessive, so that she was obliged to have the water drawn off by the catheter twice or three times a day. When inflammation is confined to the mucous coat of the bladder it sometimes puts on a chronic character, and mucus is secreted ; and sometimes pus is secreted, and in that case there is ulceration.

When a patient moans in great general distress in cases of fever lay your hand on the abdomen to feel if the bladder be distended ; for the distress very often arises from a retention of urine in consequence of the head being affected. And if the retention be neglected or overlooked, the urine undergoes certain chemical changes, becomes an acid fluid, irritates and inflames the mucous membrane of the bladder ; and thus the patient's life is destroyed.

Sometimes in inflammation of the bladder the patient has anomalous shiverings, sometimes indistinct, in other cases as distinct as those in ague. This occurs in various forms of irritation of the urinary organs. Sometimes a retention of urine is the cause of these shiverings. A shivering fit may occur, and be succeeded by a hot fit, which, having passed away, may give place to a sweating fit. These fits are very irregular in their return, and the sweating stage is generally much longer than that which attends ague.

Palpitation of the heart sometimes attends stricture, without shivering ; and sometimes a cold, hot, and sweating stage succeeding each other will point out the existence of a stricture when it would not otherwise be suspected.

It will be right to consider whether the symptoms of cystitis arise merely from the over-distention of the bladder, for the pain is sometimes then as severe as that from inflammation ; but it is not increased by pressure, it is relieved by the introduction of the catheter, and there is no fever.

Peritonitis sometimes occurs in that portion of the serous membrane which covers the bladder, and spreads very rapidly over the whole abdomen. It is accompanied by strangury and other symptoms of peritoneal inflammation.

Irritable women are liable to an affection of the mucous membrane of the urethra. There is external tenderness and pain in making water, becoming very violent on passing the last few drops.

Sometimes the symptoms of cystitis may arise from the presence of a stone in the ureter.

DIAGNOSIS OF CYSTITIS FROM HYSTERITIS.

The only affection which you can confound with inflammation of the bladder is inflammation of the uterus, which almost invariably occurs, if at all, after delivery. It is extremely rare at any other period.

The tumour in the two diseases is different, and a practised hand could easily distinguish one from the other. The inflamed uterus is firmer and not so large as the distended bladder. If you have any doubt as to the nature of the tumour, always make a point of introducing the catheter, and if it be the over-distended bladder, those doubts will be removed by drawing off the urine. Always attend to the condition of the bladder in every case of fever where the head is concerned.

Foresight is second sight. No species of knowledge is so important as that foresight of practitioners which enables them to prevent diseases. But another kind of foresight which a medical man should daily endeavour to acquire, consists of a power of foretelling events; a power equal to that which our poet gives to the wizard, who exclaims—

> "'Tis the sunset of life gives me mystical lore,
> And coming events cast their shadows before."

It is allowable in a poet to speak of "mystical lore," but it will not do in physic. We have enough of art and mystery and so on in an act of Parliament; but common sense despises and rejects all the mummery which exists about art and mystery in schools and colleges and articles of apprenticeship. No species of human knowledge is mystical: we ought to have no mystical lore; for knowledge is only mystical in order to conceal something wrong. Johnson has said, "No man can be great without great labour;" and no man can be a good practitioner of physic without great labour. A physician should be a man of perfect simplicity and perfect sincerity; for no man need in the present day be ashamed to acknowledge his ignorance upon some points. A knowledge of the extent of our ignorance is far preferable to an assumption of knowledge which we do not possess: a species of affectation which has greatly tended to degrade and disgrace the science of physic. Nothing is more painful to my mind than to see men in the practice of medicine led away by the conjectures of nosological writers, and daily prescribing saline and antimonial mixtures and black draughts, without any distinct reason for such a practice, or any distinct notion of pathology. This is not the fault of the individuals, but it is the fault of the system of medical education and legislation in this country, which is as bad as any thing can be.

LECTURE XXIV.

COMMON INFLAMMATORY FEVER.

TREATMENT.

BLOOD-LETTING.

In considering the treatment of common inflammatory fever, I shall first mention the principal remedies, and describe generally their effects and the circumstances which should guide us in their particular application. I shall then advert separately to the treatment of acute and sub-acute internal inflammation according to its various seats.

There are a few simple and powerful remedies which we apply for the purpose of the removal of all inflammatory affections. The first and most valuable of these is, unquestionably, the use of—

BLOOD-LETTING.

The spontaneous or accidental discharge of blood in the earliest ages must have suggested the application of blood-letting for the removal of diseases. A spontaneous flow of blood from the nose will sometimes relieve inflammation of the brain, and hemorrhage by some accident will occasionally remove a chronic inflammation. Hence we find that the most savage nations have rude instruments, such as pointed bones or sharp pieces of flint, for the abstraction of blood artificially. It has been said that the greatest discovery man has made is that of the use of iron and its application to various purposes: and perhaps it is the most important discovery when that knowledge is applied, not to war and destruction, but to benevolent and philanthropic purposes.

The application of sucking by cupping-glasses was perhaps suggested by the practice of sucking the poison from wounds, as was done in the earlier ages.

Boerhaave says with great truth, that there is no efficiency in any treatment, except what is to be found in its precise application. This is so true that a man may make a complete diagnosis, and form a precise opinion as to the pathology of any case, and yet be a very bad practitioner: because, in order to be a successful practitioner, he must minute every circumstance which exists at the time of the application of his

remedies, and he must also carefully note the effects produced by the remedies under those circumstances. In fact, unless a medical man observe these things minutely, he becomes a mere empiric; and is just about as precise in his practice as Dr. Sangrado was in the application of blood-letting: he may use it in some cases, but mostly he will abuse it.

The effects of blood-letting are so powerful that we should in every case have a distinct and satisfactory reason why we use it.

There are several different modes of abstracting blood: but the main thing is the effect produced, in comparison with which the method is of trifling importance. This effect is dependant upon the quantity of blood abstracted; modified, perhaps, by the slowness or rapidity with which this is accomplished, except in the case of leeching. One of the most fashionable in London is—

CUPPING.

This has become fashionable on account of the time which is saved by it. It is much less frequently resorted to in the country. It is the most barbarous way of abstracting blood, and one which I very much dislike except in particular cases. Every medical man who intends to practice as a general practitioner, should be taught to cup properly, that he may be enabled to get a sufficient quantity of blood when the lancet fails. A fat adult or a fat child may be met with in whom you cannot abstract blood from a vein, and cupping becomes indispensable. In these cases, and in these only, I would recommend the employment of cupping; the effects of which are the same as those of drawing blood from a vein, except that bleeding from the arm produces its effects generally far more rapidly than cupping, and puts the patient to far less pain. In London you have a great many opportunities of learning to cup with great dexterity. Sometimes, especially in inflammation of the integuments,—

INCISIONS

by the scalpel are made; and occasionally they are extremely beneficial: for example, for some chronic pains in the head incisions made through the integuments and healed by the first intention, are very useful. Freind, in his "History of Physic," mentions that they used frequently to be made for the purpose of relieving erysipelas; and Mr. Hutchinson says that this plan is very beneficial in the erysipelas of the extremities which occurs among sailors.

I have said that the effects of cupping are precisely those of drawing blood from a vein; but this observation does not apply to—

LEECHING.

There seems to be something peculiar in the effects of leeches, especially when the heat on the surface is not very high, and the heart's action not very much increased. My attention was drawn to this peculiarity of effect accidentally :—

I ordered a gentleman to be bled for a pulsating pain in the head, corresponding in frequency to the pulsations of the radial artery. He was bled repeatedly for it without relief. I then ordered twelve leeches to the temple, and accidentally putting my finger on the radial artery, I found that the pulse had fallen twenty beats ; though it had not fallen before under repeated large bleedings from the arm. The leeches completely relieved the pain in his head. I could not account for this, but I have observed it repeatedly since.

In all sub-acute and chronic inflammations leeching is useful; but in acute affections general blood-letting is preferable.

Some patients become faint from the loss of a very small quantity of blood by leeches; and if you wish for that effect, you will in those individuals have the advantage of knowing how to obtain it. But upon the same account you should never leave a patient, especially a child, till the bleeding from the punctures has been stopped. Some travellers mention that in a certain place is to be found a bat or vampire, which attacks people when they are asleep at night. This vampire combines, it would seem, the properties of a leech and of a bat, for while it sucks the blood it fans the victim with its wings. This is said to be true ; and of course the individual feels excessively faint in waking in the morning. A similar effect is sometimes produced by leeching.

A friend of mine, a medical man, saw an individual who went to sleep while some leech-bites were bleeding, and when he awoke in the morning he was so exhausted and so sunk that he never rallied from the effects, and died.

Another medical friend of mine lost a brother in the same way, from the bleeding during the night, after the application of leeches.

Leeches seem to have a far more powerful effect in relieving inflammation of the mucous membranes than either cupping or the lancet. They seem to have some specific influence on the heart's action, and through it on the circulation. This was remarkably displayed in my own case when I had an attack of dysentery ; I was passing slimy and bloody evacuations every half hour ; but after the first three applications of leeches, I passed no blood at all in the stools. We have many similar examples of certain effects produced by the operation of certain

medicines or remedies on certain parts of the body; thus, when the female breast is distended after delivery the milk will disappear in a great measure if you give a purgative.

If you apply leeches to an infant, always place them over some bone where you can make pressure, as on the sternum or temple. On the abdomen you will find it difficult to stop the bleeding; and I may observe that they never do any good unless they produce a decided effect upon the heart. Mothers will dip pieces of cotton or lint in brandy, and after applying it to the part for a short time keep removing it, so that the bleeding is kept up. But if steady pressure be made with the point of the finger, the bleeding will almost invariably stop. If simple pressure fail, lint or the felt of hat dipped in brandy or alcohol or a little rectified oil of turpentine will stop the bleeding generally. If these fail, sulphate of zinc will often answer. One friend of mine uses Ruspini's styptic, and speaks highly of it. A very good styptic is made of equal parts of sulphate of iron and superacetate of lead. It makes a stain, and is therefore not to be used on any part which is exposed. If all these means fail, the lunar caustic will generally succeed.

A friend of mine applied a leech to his gum, and became alarmed by the quantity of blood lost by it. The application of lunar caustic stopped the hemorrhage immediately.

An old physician was once called to a lady who had applied a leech to her gums, and it had slipped down her throat. He found her lying in convulsions, with the medical men standing about her, doing nothing to relieve her. He gave her what common sense dictated,—a little salt and water, and the convulsions immediately ceased.

Supposing the lunar caustic to fail, a very fine gold or silver needle armed with a twisted silk passed through the puncture will invariably stop the bleeding.

These circumstances may appear trifling, but they really are very important. A great many infants are lost, after the application of leeches, from a neglect of the rule which I again recommend you to adopt, namely, never to leave a child till the bleeding from the leeches has been stopped.

One objection to leeches is the uncertain quantity of blood which is drawn by them. The quantity is sometimes far too great. It is surprising how much blood exudes from the punctures in some instances; and therefore when it is your object to be precise as to the quantity of blood drawn, it is far better to have recourse to the lancet. By leeches you can, under certain circumstances, by the abstraction of a very small

quantity of blood affect the heart more than by a large quantity drawn by the lancet.

When the excitement is very high you will seldom find it much affected by leeches, except a very large quantity of blood be drawn by them.

In apartments where the air is tainted from filth and defective ventilation, erysipelas may often follow the application of leeches and sometimes also the use of the lancet.

THE LANCET

is the third and the most common mode by which blood is abstracted. We bleed by the lancet in various places where the veins are distinct.

One of the most common places is at the bend of the arm, and therefore the anatomy of that part should be well understood.

The external jugular vein is another and very excellent place for abstracting blood in many of the complaints of children.

In children too the veins of the hands and feet may sometimes be opened with advantage.

The anterior branch of the temporal artery is another part where blood is sometimes drawn by the lancet. I believe that the abstraction of blood from an artery is no more beneficial than bleeding from a vein.

Many young men may be seen running after operations in a hospital, while at the same time they strangely neglect the acquainting themselves with the best manner of performing this simple though important operation of venæsection. Blood-letting is an operation that every general practitioner should be able to perform with very great dexterity. As to its efficacy it may be considered as a capital operation ; one which we are daily called upon to perform in cases of vital importance.

There are a few points connected with blood-letting to which I may here allude.

One of them is the application of the ligature, to interrupt the return of venous blood and make the vein swell. In bleeding from a vein at the bend of the arm the ligature should be applied an inch or so above the elbow, just so tight that when the veins are obviously swelled the pulse may remain tolerably strong at the wrist. You should be very careful to feel the course of the brachial artery, the distribution of the branches of which is sometimes irregular. I need scarcely observe, that every person who performs the operation of bleeding should be exactly acquainted with the anatomy of the parts about the elbow joint. The best vein upon the whole is the median. The ligature should be

rather broader than common tape, and when applied the patient's arm should be held steadily out.

The lancet should be in perfect order: in fact, a medical man should never have any thing out of order or place, so as to have to hunt after it when he wants it. The form of the lancet is important. It should be broad shouldered if you want to draw a large quantity of blood rapidly; but spear-pointed if you wish to draw a small quantity, or to draw it slowly. On the whole the broad shouldered lancet is the best. The arm should be held steadily out, and while the lancet is plunged into the vein, pressure should be made below to prevent the gush of blood. The external opening should be of considerable extent, otherwise the cellular membrane is apt to obtrude itself before the opening in the vein, and produce ecchymosis. The vein should be punctured in a slightly oblique direction, and then the arm should be retained precisely in the same direction as when the puncture was made, that the integuments or cellular membrane may not retard the flow of blood. And if the blood does not flow freely you must tell the patient to move his fingers, or give him your lancet case to turn in his hand, or he may grasp a large stick. At this period it will be proper to examine whether the ligature is too tight or too loose.

The next point relates to the cup, which, to ascertain the appearance of the blood, should be held at no great distance from the arm; otherwise the whole surface of the blood will be covered with air-bubbles. If the stream of blood be twisted spirally like a corkscrew, it is a certain sign that something obstructs the orifice; and this obstruction may often be removed by changing a little the position of the arm. The form of the cup is important. If it be a large shallow vessel it will often show no buff at all upon the surface, because so large a surface is exposed to the air that it will cool very rapidly. But if the blood be drawn into a narrow deep vessel, the buffy coat is often more distinct. If you draw blood into a metallic vessel it sometimes prevents the appearance of buff upon the surface. This may often be observed when patients are bled into tin or pewter vessels at a hospital. They are the worst vessels for the purpose, especially if they be broad and shallow, because they are good conductors of caloric. Earthenware is better for bleeding basins. The inside of the vessel should be very smooth, or the crassamentum of the blood will become so much attached to any point or roughness which it may contain, as to prevent you ascertaining correctly whether it is cupped.

But a point of far more importance than these is to watch the approaching syncope. There is sometimes merely a step between syncope

and death. When syncope is coming on, lay the patient down at once; and while the blood is flowing, before syncope is threatened, you should be quite sure that the patient's head is not so high as to endanger its striking against the top of the bed in case you should lay him down rapidly. The patient should be gently, but suddenly, laid down flat, for if you were to lose time in laying him flat, the syncope might be complete while he was erect, and he might die in that position almost instantaneously, especially after losing a large quantity of blood. I have known several cases where patients have actually died from want of presence of mind in the operator.

A man in a fit of insanity cut his throat; but though the attempt to destroy his life was ineffectual, yet he lost a very large quantity of blood. As often occurs in these cases, the shock of the operation, or the loss of blood, or both, restored him to some degree of reason, so that he expressed his regret at having committed such an act, and was extremely anxious to know if the wound was mortal. He was assured that it was not mortal; but being suffered to remain in the erect position he fainted. The medical man then losing his presence of mind, the syncope was instantaneously succeeded by death.

A friend of mine, a general practitioner, extirpated a small tumour from the breast of a female. After the operation, which was extremely well performed, the patient fainted, and a surgeon and physician who were present became alarmed; and, without offering any assistance, kept her erect. My friend immediately laid her flat, but it was too late, for in that short interval she was irrecoverably dead.

As soon as ever syncope approaches, especially when a large quantity of blood has been drawn, lay the patient perfectly flat.

If the patient roll about much, or toss the limbs and head first one and then the other way; having arrested the hemorrhage, an assistant should lay the hand gently on the patient's head and keep him perfectly still for some time.

I once had to watch a patient in this state for several hours to prevent his dying, for upon the least motion the syncope was renewed.

A basin of cold water, a smelling-bottle, and a little wine or brandy, should be at hand in perfect readiness; because sometimes by dipping the hand in cold water, and sprinkling the patient's face, you may produce a deep inspiration, and in that way the circulation may be kept up. A little wine or brandy taken into the stomach will produce the same effect.

After sufficient blood is abstracted, the next thing to be attended to is the cleaning and tying up the arm. You should have a little tepid

water in a basin—for cold water sometimes produces a chill—and wash the arm carefully with soft linen, which is better than sponge which is commonly used. You should be very careful of this part of the operation, lest by irritating the wound erysipelas should be produced. Life often depends on a proper attention to this point. If you use a dirty sponge or a rough towel, the arm may become inflamed and the patient may die. If you employ a sponge, let it be excessively soft and perfectly clean. The blood should be completely cleansed from the part. Your object is to heal the wound by the first intention; and therefore you should put the edges of the wound closely together; and the best way of doing this is by using two compresses. You should apply a thin one first, and then another more firm compress over it; and lastly apply a bandage neatly around the part. The bandage should be sufficiently broad, and not be tied in a knot, but stitched or pinned. A knot over the orifice may be painful; and you should mind where you place the pin. Of course you should consult the patient's feelings after the application of the bandage, that it be not too tightly applied. If the patient complain of any uneasiness about the hand or arm, and especially if the vessels swell, you may be quite certain that the bandage is too tight: the patient should be perfectly comfortable, and should be directed not to use the hand or arm for some time afterwards.

In some cases I have known persons who imagined a patient would require bleeding again in an hour or two, insert one or two drops of oil of almonds, between the lips of the wound to prevent union. If the first wound will not answer again, make another opening in another vein, or in the same vein below the original orifice.

A patient was bled in the arm; a large lump of round linen was applied, and covered by a twisted tape. Inflammation occurred at the orifice, spread to the adjacent cellular membrane, and erysipelas was the consequence. Fever occurred, with violent inflammation of the brain, and the patient sunk and died. On examination after death marks of intense inflammation were found in the pia mater and tunica arachnoides, and in the cellular membrane near the wound, though not in the vein.

I have seen many serious consequences from using a coarse cloth, a rough sponge, &c. Erysipelas from this cause is terribly fatal. You should, in short, perform the operation well in all its parts; for by this you will not only confer upon the patient a positive benefit, but will prevent many future evil effects.

There is often a very material error in bleeding. I ordered a lady to be bled a small quantity. The medical man made a tremendous

wound in the arm, and applied a bandage carelessly over a large compress. The next day, when the arm was dressed, there was a gaping wound. A large compress very often prevents the union of the wound: they should be very small and made of fine old soft linen.

When a boy at school I recollect reading Rollin's Antient History, and being very much struck with his remark that it is a glorious thing for a man so to turn his errors to account as to make them serve his interests. But the glories of life are in reality the vanities of life. And you must remember that a far better thing for a physician to do is to avoid the commission of errors; to learn by the mistakes of others, to shrink from the repetition of them, lest they be fatal.

The external jugular vein is another part from which blood is often abstracted with great advantage, especially in convulsions, whether they occur in children or in adults. The operation here is very easy. You may make pressure on the vein below with your thumb, or by means of a ligature. Suppose you wish to bleed from the right external jugular vein, you may pass a ligature over the lower part of the vein and under the left axilla; but the pressure of the thumb will generally answer as well. The incision should be made with a slight obliquity; and when a sufficient quantity of blood has been drawn, always apply a piece of lint over the puncture, and over the lint adhesive plaster; for otherwise, on any exertion, or especially if the patient have any difficulty of respiration, the blood may flow again from the puncture, and the hemorrhage may be fatal.

When you have occasion to bleed from the veins of the hand or foot, it is best to apply a bandage around the limb, and immerse it in warm water.

Very few persons, however, who are dexterous, will fail in bleeding at the bend of the arm, which is certainly the best place.

In many affections of the head the French think it preferable to bleed at some distant part; and facts certainly countenance the correctness of such an opinion.

Leeches applied to a distant part will produce an effect upon the vessels of the head, provided they produce an effect on the heart's action. I have known the head to be very much relieved by the application of leeches to the foot or stomach. It appears that the old doctrine of derivation of blood, or derivation of the nervous influence, is still believed to some extent by the French. And no doubt blood is derived to the part; as when a few leeches are applied to an inflamed testicle, for they will evidently draw a flow of blood to the part.

The temporal artery is sometimes a very convenient place for bleeding, especially in convulsions or excessive congestion of the brain.

I saw a patient in convulsions, with evident distention of the temporal artery, from which thirty ounces of blood were removed with very great benefit.

The artery should be pierced in a slightly oblique direction.

When sufficient blood has been drawn the hemorrhage may be arrested by pressure made with a sixpence. If pressure fail, you must cut the artery entirely across.

If you do not divide the artery be careful to apply sufficient pressure, or a small aneurism will arise.

I have seen several cases of aneurism, occurring after opening the temporal artery, cured by pressure by means of a sixpence and a bandage.

Euripides has observed that one wise head is worth a great many hands. And this would be a capital motto for most Colleges of Surgeons. Nothing can be more absurd than the examinations at the London College of Surgeons, where surgery and physic are separated from each other. I never pass that building but I shrug my shoulders to think of the fact, that in those examinations nothing should ever be asked of the principles or practice of physic. Can any thing be more absurd or more dangerous than this? But so it is.

With respect to the cases in which blood-letting is beneficial or prejudicial;—in all cases in which the surface is pale and cold, the pulse feeble and fluttering, the respiration excessively weak, and the strength excessively prostrate, avoid bleeding.

Inflammatory fever is that form of disease in which blood-letting is one of the main remedies; but it is on the precise application of blood-letting that its efficacy exists; and in order to this a number of circumstances must be taken into account.

One point to be attended to in the application of blood-letting to internal inflammation is—

1. The degree of the inflammation.

It may be in the highest degree, or acute; or it may be sub-acute; or it may be chronic. If the inflammation be acute, the local embarrassment is greatest and the fever highest, and it runs a much more rapid course than if it be sub-acute; and therefore as less time is allowed for the application of remedies, more prompt and plentiful evacuations of blood generally are required in acute than in sub-acute inflammation, in which both the local affection and the excitement are less urgent.

There are, however, some exceptions to this.

1st. One exception occurs in inflammation of the brain: in one form of which the heat is not higher than natural; the pulse is not quick, hard, nor full; and there is oppression of the brain, and, through its influence, of the whole system. In these cases moderate blood-letting is borne best; but you must be guided by the effects. If the pulse rise under the abstraction of blood, it is a good sign; but if the pulse sink under the bleeding it is a bad sign, and you must stop.

2d. Another exception occurs in bronchitis: and the more intense is the inflammation of the bronchial lining, the more dangerous is copious and repeated blood-letting; for the structure of these parts is peculiar. The blood in all these cases is changed, and oppresses the whole body; and if the patient be bled copiously and repeatedly, he generally sinks and dies. But if the patient be mildly treated he recovers.

3d. Another exception occurs in inflammation of the mucous membrane of the stomach and intestinal canal, when it is set up suddenly and extensively, attended by a shock of the whole system by a feeble pulse, by a cold skin, and by an oppressed respiration. And while these symptoms, together with universal prostration of muscular power, continue, so long should you avoid blood-letting.

In chronic inflammation fever is sometimes entirely absent; and, if present, it never runs so high as in acute inflammation. Chronic inflammation can seldom be cured by one, two, or three bleedings; it is established by habit, and requires to be slowly subdued.

Another point to be attended to in order to the precise application of blood-letting, is—

2. The seat of inflammation.

If it be in an internal organ, it generally is of far more consequence than in an external part, inasmuch as internal parts are of more vital importance. Erysipelas in London is, in bad cases, invariably complicated with internal disease; and this is why it is so formidable a disease compared with a mere simple external inflammation.

Inflammation of a serous membrane generally requires more copious bleeding than inflammation of a mucous membrane. The same observation applies to inflammation of the parenchyma, or substance or body of an organ.

Inflammation of the mucous membranes most frequently has a certain duration; and when it occurs you cannot cut it short as you can inflammation of a serous membrane. If therefore in these cases you go on bleeding again and again you will often do very great mischief.

If acute inflammation attack the larynx it is sometimes fatal in seven

or eight, and very often in twenty-four, hours. Here prompt measures are obviously required notwithstanding the structure of the inflamed part. These observations apply also to inflammation of the lining membrane of the trachea. Another point of importance is—

3. The duration of the inflammation.

In almost every form of inflammatory fever, when the fever is fully developed, there is a first, a middle, and a last stage.

The first stage is the period in which the pulse is quicker and more resisting, and in which the skin is hotter, than natural. This stage goes on increasing: the tide flows till it reaches a certain point, and then the complaint remains stationary for a certain time, moving neither the one way nor the other: and this constitutes the middle stage. From this period the fever often ebbs, and the last stage sets in: and then the force of the heart's action falls, and the pulse becomes far more feeble; the respiration becomes far more weak; the heat declines over the surface, first on the extremities, and then on the trunk; and the prostration of the muscular system is surprisingly increased.

Now it is only in the first and middle stages that blood-letting does good, and is borne remarkably well; in the last stage it generally does harm. In the last stage, therefore, bleeding should be used very carefully; and though you cannot often do any positive good, yet, negatively, you may avoid doing much harm, and thus save the patient's life. It is important to consider—

4. The condition of the pulse and heat on the surface.

When you find the pulse small and hard, like whipcord or wire; or large, round, and resisting; and the skin at the same time hot and dry; then you may be almost certain that the patient is under the most favourable condition for blood-letiing.

You have an example of this in inflammation of the peritoneal coat of the intestines, or of the proper peritoneum.

There are some exceptions to this rule, but not many. One exception is the following: with respect to the skin, in inflammation of the kidneys, of the mucous membrane of the bladder, and of the mucous membrane of the large intestines.

I saw a lady with a skin hardly hotter than natural, with distinct and considerable pain about the region of the kidney, with a pulse quick, hard, and wiry. I ordered her to be bled, which was attended with very great benefit.

In some forms of inflammation of the brain the pulse and the animal heat are very little disturbed. This applies to inflammation of the lungs

and to inflammation of the liver in some cases. The local inflammation is not indicated by a corresponding degree of fever.

There are some exceptions with regard to the pulse I have mentioned, especially to the round and resisting pulse.

A round, resisting pulse, sometimes arises from enlargement or thickening of the left ventricle of the heart, which continues through the remainder of life. In such a case, but for the previous history, you might be deceived by the pulse if any slight attack of inflammation should occur.

I once saw a patient bled for a supposed inflammation of the lungs, by two Professors of Medicine, till one hundred and sixty ounces of blood had been lost, though she had but a slight degree of fever. The consequence was, that the pulse was not at all reduced, but she died of the blood-letting; and upon examination of the body the left ventricle was found to be thickened and enlarged. The other point for consideration with regard to the application of blood-letting is—

5. The condition of the respiration, deglutition, and muscular power.

This is a subject which every medical man should follow Hippocrates in attending to. Whenever a patient takes a deep and strong inspiration, and then makes a powerful expiration; whenever a patient displays great strength in inspiration and in expiration, as in coughing, &c., you hardly ever need be afraid of blood-letting. On the contrary, when the inspirations and expirations are feeble, when the cough is feeble, and the patient helpless, you should be extremely cautious; for if you bleed these patients copiously they generally die.

In all cases when the respiration has become very feeble, and especially when the deglutition is impeded, the period for blood-letting is past. I have great dread of bleeding in this state; and also when there is great prostration of muscular power, so that the patient lies on his back in a sunk position in the bed, with a very feeble voice and a very weak pulse.

It is requisite to take into account—

6. The firmness and fulness, or the laxity, or spareness, of the body.

You have a very good illustration of this in London. Take, for example, a servant who is well fed, clothed, and lodged; and compare him with some poor cockney who is badly fed and lodged. The one, full and plethoric, will require the abstraction of twenty or thirty ounces of blood in order to remove an attack of inflammation; but in the other spare and pale individual it will be sufficient to abstract six, eight, or ten ounces, in order to produce the same effect: and, beside, the firm,

full, plethoric patient, will rapidly rally; while the spare individual will rally more slowly.

Let me again remind you that in performing a positive benefit you should be careful to do as little mischief, prospectively, as possible.

Persons of full habit and firm muscular fibre, who live on animal food and take exercise in the open air, almost invariably bear bleeding remarkably well. Individuals of sedentary habits, feeble, and of remarkably relaxed muscular fibre, will faint under the loss of a very small quantity of blood, which answers best in them. Persons of pale spare habit and soft skin, who live on tea, or drink diffusible stimuli largely, and eat little animal food, soon sink under bleeding. Persons who drink spirits, or wine, with a large appetite for animal food, generally bear bleeding well, till they get old. Confirmed drunkards generally bear blood-letting ill; and so do persons who are the subjects of much mental anxiety, especially if the natural sleep be broken. Cynanche tonsillaris occurring in a person of strong habit, with a full pulse and very firm fibre, the patient will bear copious bleeding remarkably well. But when it occurs in a spare habit, with a soft pulse and delicate skin, if you were to bleed such a patient in the same way you would destroy him or break up the general strength. The same occurs in erysipelas, which is one of the names set down to be prescribed for: if it occur in the country bleeding will be borne well; but in weak patients, in London, bleeding will destroy life. Attend, then, to the state of the fibre and the general appearance.

Another point which requires to be taken into account is—

7. The age of the patient.

There are remarkable differences in infancy, in manhood, and in old age.

Infants seldom bear very copious losses of blood well, but suffer extreme exhaustion and extreme irritation from them, and do not rally well after them.

The same observation applies in one respect to old persons, who seldom rally well after large losses of blood.

Between the ages of twenty and forty the power of accommodation is very great; but you must be cautious in the abstraction of blood in infancy and in extreme old age. If the habits of old persons be very regular, or if an infant be very large, these circumstances may of course be taken into account in considering the quantity of blood which may be drawn. This is especially the case in London—that infants are small, and the habits of old persons intemperate; and that they generally do not bear copious losses of blood well.

8. The sex of the patient.

Generally speaking, women bear bleeding worse than men. Sometimes they bear more bleeding than men, especially in the puerperal state.

9. The state of the atmosphere.

Patients generally bear blood-letting better in a cold dry atmosphere, especially if there be a brisk wind, than in a stagnant moist atmosphere. Patients in the cellars of London seldom bear bleeding so well as those who reside in garrets. The same remark applies to hospitals and prison-houses. In hospitals which are not well ventilated there is a taint in the air, from the influence of which patients sink under the application of bleeding.

10. The nature of the remote occasions.

In cases of fever which arise from common occasions blood-letting is generally better sustained than in those which proceed from peculiar occasions, such as inflammatory fever arising from malaria or specific contagions. Bleeding, at least, is not so well borne in the middle and advanced stages as in the corresponding stages of common fever.

This is especially the case in what is called typhus fever. That affection, as I shall hereafter explain, sometimes sets in with very high excitement. When the heat is low on the surface with a sticky varnish on the tongue, whether these symptoms occur early or late, be very cautious of bleeding. I saw a case of typhus fever where there was a remarkably expanded pulse and violent inflammation of the brain; and full one hundred ounces of blood were drawn in that instance. If there be pain in the head, or pain on pressure in the pit of the stomach or in the bowels, bleeding by leeches may be tried very cautiously in the advanced stages.

Small-pox very often sets in with very ardent fever. You should treat the symptoms then without reference to small-pox at all, even if you knew what it would be. If you remove the high degree of excitement by bleeding, purging, cool air, and spare diet, small-pox will terminate favourably; if you neglect that state it will terminate in confluent small-pox. Confluent small-pox may generally be prevented by proper treatment of the eruptive fever. When confluent small-pox sets in with symptoms of what is called typhus gravior,—in these cases just be as cautious as in typhus fever; for there is an overwhelming bronchial affection, which requires to be taken into account.

The same observations are applicable to scarlet fever.

With regard to hooping-cough, there is sometimes a considerable degree of fever. When this occurs the lungs are always implicated.

Sometimes in the progress of the affection the brain becomes inflamed. If the heat be high on the surface and the pulse expanded you may bleed freely: if the pulse be compressible and the heat moderate bleed more moderately.

The same observations apply to catarrh. It sometimes sets in with open fever, and then bleeding will be well sustained: sometimes it sets in with a bronchial affection, and bleeding will be very ill borne.

With respect to the repetition of blood-letting, you must be guided by the circumstances of the case. If there be inflammation in a serous membrane, or in the substance of an organ, do not be content till the inflammation be quite or nearly removed. If the inflammation be in a mucous membrane, as in that of the bowels, you must be content with moderating its violence.

It is important to consider on the same subject—

11. The appearance of the blood.

In the first place, you must take into account the proportion of cruor and serum. In all cases where you observe a large crassamentum in proportion to the serum, it is a certain sign the patient can bear the loss of blood well: if it be small in proportion to the serum, be cautious in the repetition of bleeding.

If the crassamentum be large, very firm, and tenacious, and if it be concave upon the surface,—turned up on the edges and sunk in the middle, or cupped, as it is called—bleeding will be well borne.

If the blood remain a fluid gore in the vessel without coagulating, no more should be abstracted.

If it be convex upon the surface it is always loose: if the person be excessively weak it will often be arched on the top, and then you should be cautious in the repetition of blood-letting, unless for some very powerful reason.

The thick, firm, buffy coat, when the blood is at the same time cupped, is a sign that evacuations of blood can be borne. You have two remarkable exceptions to this, in rheumatism, and pulmonary consumption.

1st. In rheumatism you may draw blood again, and again, and again, and still it will be excessively cupped and buffy to the last; and if you went on, guided by this, you might destroy the patient.

2d. In the advanced stages of phthisis pulmonalis, in which there are tubercles and inflammation of the substance of the lungs, you find the same thing very often,—the blood is generally buffy to the last; and if you repeat the operation you would destroy the patient.

A buff sometimes exists upon the blood which resembles jelly, being

loose and semi-transparent. It occurs in pale broken-up individuals, with a superabundance of serum and a loose crassamentum. It occurs generally in old persons with a quick jerky pulse and a skin hotter than natural.

12. The appearance of the urine.

Whenever the urine is scanty, high-coloured, and turbid, you may bleed with safety: whenever it is copious, thin, and pale, you should bleed with more caution.

Blood-letting seems to operate in a variety of ways.

1. It operates, obviously, by diminishing the quantity of blood; by which the capillary system is especially freed. And when blood-letting is often repeated—

2. It obviously affects the quality of the blood.

We have distinct evidence of this in the diminution of the comparative quantity of cruor. Thus after the second or third blood-letting the blood will be found to contain comparatively less crassamentum and more serum. And if the bleeding be very often repeated the blood drawn hardly stains linen.

With regard to the quality of the blood, you should not bleed too repeatedly. And it is only for some very powerful reason that you are justified in changing the constitution of the blood.

3. Blood-letting affects, also, the frequency of the heart's motion, or the velocity of the blood.

It very often diminishes the velocity of the circulation, though sometimes it only diminishes the force and not the frequency of the circulation. The number of pulsations at the radial artery may be as high as, or even higher than, before the operation, but the force may be lower.

4. Bleeding often removes what in one word we call irritation; for example, pain.

5. It very often operates very powerfully on the skin; relaxing it and producing copious perspiration.

6. It very often restores the balance of the secretions.

Before adverting more particularly to the precise treatment of internal inflammation of various structures, I shall make some general remarks in the next lecture on some other remedial agents which experience has proved to be efficacious; in the application of which measures I shall in some instances feel it my duty to dissent from some authors of distinction.

There are four kinds of individuals at present in the practice of physic.

The first are physicians. Their business consists in writing prescriptions, and that is all. They are dovetailed and fitted to all cases.

The exercise of the second class is applicable to the general practitioners; and it consists in compounding medicines and making out bills. Both are done according to custom by a nosological practitioner month after month, year after year.

The third class perform operations without a reference to physic. By these men an arm or a leg will be lopped off just as is done by harlequin at Christmas. This refers to the pure surgeons.

It is none of these modes of practising physic which I recommend to you. The experience you should have should be of a different kind. It should be the experience of the fourth class, which is obtained by the observations of symptoms during life, and the investigation of the morbid appearances after death, so as to deduce *à posteriori* principles of pathology; and by noting every circumstance under which medicines are given and every effect produced, so as to be enabled to give, as well as to deduce, precise rules with regard to their application in other cases.

In fact, in one word, you ought to avoid the nosological method now in vogue of practising your profession. I will hack and hew this great tree of nosology till I bring trunk and branch to the earth. Look into the most popular works on the subject. Look to the work of Dr. Thomas. It is any thing, every thing, or nothing. It has no definite character at all. One might be amused by reading it in the closet, or hearing the contents in conversation, but not when we reflect that the symptoms, pathology, and practice laid down in that book are current in this country,—current in our schools and colleges, however lamentable that it should be so.

Pope suspected the sincerity of Addison, and he beautifully exclaims—

> "Who wouldn't laugh if such a man there be!
> Who wouldn't weep if Atticus were he?"

Who would not weep that this nosological system is entertained? It really is lamentable to see men endowed with every moral excellence fond of this system; and yet it is not the individual who deserves blame, but the absurd system of medical education and legislation which prevails.

Some only recount the recoveries and escapes of their patients, instead of cures, of which they have less numerous examples.

They relate such extraordinary events as surpass every thing in ordinary practice; and, as Cullen says, we have more false facts than false theories in the medical world.

LECTURE XXV.

COMMON INFLAMMATORY FEVER.

TREATMENT.

APERIENTS.— EMETICS.— NAUSEANTS.— DIURETICS.— SUDORIFICS AND DIAPHORETICS.— REFRIGERANTS.— NARCOTICS AND SEDATIVES.—EXPECTORANTS.—ASTRINGENTS.—TONICS.—STIMULANTS.—EXTERNAL AGENTS.

In this lecture I shall consider the effect of a variety of remedies to which, beside blood-letting, we have recourse for the relief or removal of acute and sub-acute internal inflammation.

APERIENTS.

Aperient medicines may be divided into three kinds—Laxatives, Purgatives, and Cathartics.

1. Laxatives are those aperients which unload the bowels with little or no additional discharge or irritation.

The principal of these are manna, sulphur, magnesia, pulpy fruits, vegetable acids—as lemon juice, mustard seed, rhubarb,—electuary of senna, and milk whey—especially in cases of habitual constipation.

2. Purgatives are those aperients which evacuate the contents of the bowels with some additional discharge, but with little or no irritation.

The principal of these are cold-drawn castor oil (for the hot-pressed oil is comparatively drastic), aloes, jalap, senna, calomel, sulphates of magnesia, soda, and potass; tartrate of potass, and supertartrate of potass.

3. Cathartics are those aperients which unload the bowels with some additional discharge and with more or less irritation.

The principal of these are colocynth, gamboge, scammony, elaterium, croton oil, black hellebore, and some of the preparations of antimony—as emetic tartar.

1. The doses, however, influence the operation of these medicines; and laxatives become purgatives, and purgatives in large doses will produce cathartic effects; but still the distinction practically obtains.

2. The operation of these medicines is also modified by their combinations.

Thus colocynth is a cathartic ; but it is even a laxative if it be combined with hyoscyamus. Almost all these aperients are disagreeable, and they are better combined, since they become more pleasant and also more active by combination. The most certain way to relieve the bowels is to give a combination of aperient medicines.

This distinction of aperients into laxatives, purgatives, and cathartics, is very important in the practice of physic. The ancients were well aware that their cathartics were frequently fatal, and constant allusion to this fact are made in their writings. Hippocrates mentions that the convulsions which occur under the operation of black hellebore are generally mortal. Convulsions in infancy and childhood are now very common from the careless use of cathartics. I have seen it again and again proved that fatal convulsions have occurred from cathartics. If adults do not often die from convulsions, yet they frequently die from inflammation produced by the administration of cathartics. The condition of the mucous membrane of the alimentary canal is by far too commonly overlooked. And in cases of fever the cathartics are yearly fatal to a very great extent. I formerly committed a great error in the exhibition of cathartics in febrile diseases.

Since purgatives may be cathartics, and laxatives may be purgatives, according to the doses, this fact shows the necessity of caution in prescribing them in a certain quantity, and, if possible, of seeing them all prepared. The reputation of a physician is constantly in the hands of a general practitioner or a chemist, and generally very safely so. With regard to the general practitioner, it is of the utmost importance that he should be one who will fulfil to the letter the prescriptions of the physicians, inasmuch as the reputation of the physician and the life of the patient so often depend on it. He should be an individual so conscientious as to prepare every prescription with the greatest possible accuracy. I have known individuals of great worth whose reputation has been entirely sacrificed to the carelessness of apprentices or assistants.

Sometimes we give aperients not by the mouth, but by the rectum : under the form of enema or injection, or the good old Engltsh word which I prefer, glyster.

They operate chiefly by the stimulus of distention, and partly by the irritation of the salt which enters into their composition. They are exceedingly useful in some forms of disease, both acute and chronic. The French use them more than we do, and perhaps we neglect them

too much. It is the best way of relieving the large bowels also. One would *à priori* infer that it would exhaust the patient less than the exhibition of aperients by the stomach, and generally it is so. But there are some exceptions to this observation.

I saw a young lady to whom an enema had been given to relieve an over-loaded colon. She was a woman of a very delicate mind, and after the operation she was excessively exhausted.

When this is the case you would prefer giving some aperient by the stomach.

Another way of exhibiting aperients is in the form of suppository. Aloes and Castile soap will in this way sometimes relieve an overloaded colon. In cases of torpid colon a minute quantity of elaterium will produce this effect if introduced into the rectum.

Although, as classes, aperients may be called either laxatives, purgatives, or cathartics; yet if you examine still more minutely, you will find that almost every aperient has some operation peculiar to itself, beside the common operation and effect of relieving the bowels.

Upon one occasion I met a popular medical man, and I asked him what aperient ought to be given in the case before us. He said with confidence, "Any old woman knows that one aperient is just as good as another." This is the opinion of old women both in and out of the profession; but the truth is, that they differ remarkably in their operation, so that the safety or danger of the patient often depends upon the judicious selection of aperient medicines.

What I call laxative medicines and the resinous purgatives chiefly operate on the colon.

Castor oil, senna, and saline purgatives, operate upon the whole tract of the intestines; yet these also operate differently. For example: half an ounce of a saline purgative day after day will provoke loose motions, and yet if the colon be over-loaded the scybala will still be retained. This is not the case with castor oil, which will dislodge scybala from the colon, while saline purgatives will fail to do so. It is therefore of consequence to remark this difference.

Calomel operates very remarkably: it emulges the liver, as is evident from the copious flow of bile which it produces; and it emulges the mucous follicles of the intestinal canal, as is evident from the increased secretion of mucus. Calomel as a purge produces an effect on the stomach through which it often occasions nausea and profound universal relaxation of the system. A child often fails and becomes pale and sick during or after the operation of calomel purgatives. In

that way calomel not only induces a discharge from the bowels, but tends to solve some febrile diseases very remarkably.

Cathartics operate not only on the serous exhalants of the mucous coat of the intestines, but also on the mucous follicles, provoking serous and mucous evacuations. This is the reason why they are so very dangerous in many affections of the bowels, as in enteritis. When sero-enteritis occurs cathartics are given because there is constipation. This arises from gross ignorance, or from mistaking the effect for the cause.

Under different conditions of the body, then, it will be obvious that different aperients are required; that the life of the patient often entirely depends on the judicious application of aperients; and that it is, therefore, of vast importance to select them according to the condition for which they are appointed.

Aperient medicines operate in a great variety of ways.

1. By removing fæcal accumulation.

They have in this way a sort of mechanical operation. This is often a great object when the secretions are morbid. Individuals who are healthy, when they have a perfect evacuation, have a subsequent perfect comfort; but if it be incomplete, there is a sensation of uneasiness remaining—a sense of fulness in the lower part of the rectum. When this remains it is almost constantly an indication of an overloaded state of the colon. It is of consequence to recollect this in acute, in subacute, and particularly in chronic inflammation. This is especially the case in large towns. In London, water-closets were formerly very rare, and human excrements were emptied into the streets; as was the case till lately in Edinburgh: for in building that city one of the greatest comforts seems entirely to have been overlooked.

2. By preventing fæcal absorption.

In many cases of fæcal accumulation a distinct fæcal odour passes from the skin and breath of the patient.

3. By preventing retention and absorption of urine.

Some old authors on fever constantly advert to retention of urine as a common occurrence. This arose from neglect of the bowels, and is extremely rare if they be daily and gently opened; except where the brain is affected: and then, nevertheless, the bladder is apt to be distended, with almost incessant moaning and anomalous cold shiverings. Whenever you see these circumstances, you should make a point of attending to the condition of the bladder.

The absorption of fæces and urine, when it occurs, increases the fever.

4. By increasing the secretion of the mucous membrane of the bowels, of the liver, and perhaps of the pancreas.

It is upon this principle that we often remove remote affections, upon the old doctrine of derivation, explain it how you may,—as affections of the brain or of the bronchial lining. If inflammation exist there, you daily act by aperient medicines on the bowels; and thus diminish and at last remove it. You remove an overplus blood in one part by directing it to another part.

But since aperients irritate this structure which is of such consequence, physiologically speaking, the immense importance of unnecessarily irritating it is obvious. Swarms of individuals are constantly destroyed through the irritation of common prescriptions, which have nothing but precedent for their recommendation. Within these last twelve months I have seen twenty children destroyed by daily antimonial mixtures; indeed, in saying twenty, I am certain I am within bounds.

A friend of mine lately lost a child from the exhibition of scammony.

These drastics are especially dangerous in delicate children; but the observation obtains in all children. Relaxation always attends the operation of drastic purges, even in adults.

A man asked at a druggist's shop for a dose of physic, which, being composed of a drastic purgative, made him feel the next day as if he had been poisoned. He had violent diarrhœa, and, in fourteen days, he died. On examination, no doubt ulceration of the intestines and especially of the colon would have been found.

Whenever you give purgatives to children, examine the stools strictly, and ascertain whether the bile is healthy, whether there is a large quantity of mucus, and whether there are scybala. Of course, in this examination, you must take into account the effects of the remedy.

Aperient medicines operate—

5. By lessening the quantity of circulating fluids.

This is quite obvious; they amount, in fact, to a species of bloodletting, drawing off the thinner parts of the blood. This is especially the case with the saline aperients.

6. By diminishing the force and frequency of the heart's action.

7. By reducing the heat on the surface of the body, from some consent between the stomach and skin.

If the heat on the suface be very high, it is almost invariably diminished by aperients.

When the mucous membrane of the bowels is irritated, the skin is affected as to its temperature.

In some inflammations, as of the chest, you must take care not to chill the surface when you give aperients.

Do not act too forcibly upon the bowels when the mucous, serous, and fibrous membranes of the chest are inflamed.

Aperient medicines thus—

8. Indirectly influence the whole capillary system.

You see patients very frequently pale under the operation of purgatives.

9. By promoting absorption very remarkably.

If you purge a patient a day or two so as to produce a cold skin, you may produce ptyalism rapidly by mercury. They promote also the absorption of fluids deposited in various parts of the body.

10. Perhaps aperients change in some degree the constitution of the fluids.

The application of aperient medicines requires then a great deal of discrimination. They are modified in their effects by the state of the body under which they are given.

EMETICS.

Emetics are those medicines which excite vomiting. In the first place nausea is produced, attended by uneasiness at the stomach, by a sense of languor and lassitude, by a pale face, a cool skin, and also invariably by more or less sinking of the pulse. Then vomiting occurs, from the combined influence of the brain, stomach, diaphragm, and abdominal muscles.

Emetics increase the susceptibility of the stomach, so that on repeating their application, a smaller dose than at first will be sufficient; but if repeated doses of ipecacuanha or emetic tartar be given, the susceptibility of the stomach is destroyed.

Two modes of exciting vomiting are employed by medical men.

1. Dry vomiting.

This was formerly very much used in consumption, but is now abandoned. Only a small quantity of fluid was given with the emetic; hence there were repeated efforts, and little or no vomiting.

2. Wet vomiting.

Tepid water remarkably assists vomiting, and prevents the painful retching which otherwise occurs. And sometimes bitter medicines are used for this purpose, as infusion of chamomile flowers.

NAUSEANTS.

These are emetics in small doses. They differ only in degree from

emetics, and are beneficial in some cases where vomiting would be injurious.

DIURETICS.

These are very secondary remedies. They are medicines which increase the flow of urine; and they operate directly, or indirectly.

1. They operate directly:—

1st. Through the stimulus of quantity; and hence large draughts of water prove powerfully diuretic.

2d. Through the effect of some impregnation, which, being in the blood, stimulates the kidneys; hence coffee, asparagus, and turpentine leave a smell in the urine, while others leave no smell.

3d. By a general stimulus; as mercury, which operates on all the secretory organs, especially when it does not operate on the salivary glands.

2. Diuretics also operate indirectly in three ways.

1st. By diminishing the action of the heart; as digitalis, blood-letting, squills, purging, spare diet. The absorbents act as usual, but the quantity of blood passing through the secretory organs is not the same as usual.

2d. By increasing the absorption through evacuations.

If you bleed or purge, and then give mercury, its absorption will be far more rapid from the stomach. And on this principle they operate as diuretics indirectly.

3d. Through sympathy.

Cold water increases the action of the kidneys the moment it is taken into the stomach, and the same obtains with regard to the skin. Tea affects the skin very rapidly. In the winter from this sympathy we pass more water than in the summer. Music sometimes operates remarkably on the skin and urinary organs. Shylock says—

> "Others, when the bag-pipe sings i' the nose,
> Cannot contain their urine."

I suppose this is the reason why grooms whistle to their horses.

The operation of all diuretics is remarkably uncertain. This is the reason why the treatment of dropsy has been so unsuccessful. You will generally fail in exciting the action of the kidneys by diuretics.

Bland tepid drinks excite them better than medicines. In short, if you lessen the inflammation by the means I shall point out, you will restore the action of the skin and kidneys, because you will restore the balance of the circulation and of the secretions.

I suppose by-and-by we shall have a patent pump for the purpose of exciting the kidneys, for I confess in my attempts to call them into energetic action I generally fail.

SUDORIFICS AND DIAPHORETICS.

Sudorifics are medicines which produce sensible perspiration. Diaphoretics increase the insensible perspiration. In fact their action is one and the same. They operate—

1. By sympathy, or a connexion through the nervous system between one part and another. Thus tepid fluids taken into the stomach often excite perspiration immediately.

2. By changing the distribution of the blood. They bring a flow of blood to the surface, and thus relieve the internal organs.

3. By lessening the quantity of the blood. It is a notorious fact that a jockey will in twenty-four hours reduce his weight several pounds.

4. They tend ultimately to lessen the heart's action, certainly in frequency, if not in force, and generally in both.

5. They affect the temperature of the body, generally and locally.

REFRIGERANTS.

These lessen universal or topical heat. One of the most powerful is the application of a low temperature, of the efficacy of which you have an example in phrenitis. In these cases it is best to premise bloodletting and purgatives, which are two of the most powerful refrigerants; and after these I have used cold affusions with great benefit, but not unless the heat of the skin is still very high.

In many peculiar fevers, when the heat sets in high, cold affusions may be used with very great advantage, as in scarlet fever, typhus fever, and small-pox. In the eruptive fever of small-pox, if the skin be hot, you may use tepid and sometimes cold affusions with very great benefit. But when either of these affections sets in with smothered heat upon the surface cold affusions would prove fatal, and even tepid affusions had better not be used.

In measles more care is required, for patients are then generally preternaturally susceptible of cold. Here you may generally with great safety use tepid affusions or copious ablutions, especially when the heat is higher than natural over the whole surface, and the skin is dry.

Fresh cool air is an excellent refrigerant; and this is especially of consequence in specific fevers, in all which cases a very small fire should be made every afternoon to ventilate the room.

Regulation of the bed-clothes may be considered indirectly as a refrigerant.

Gelatine is a refrigerant compared with extractive matter. Thin farinaceous articles of food are refrigerant. So are effervescing draughts, especially when the stomach is irritable. And vegetable acids, especially citric acid and lemon juice, and moderate doses of oxymuriatic acid, have a similar effect. Nitre has been said to have a similar operation, but I repeat that in febrile diseases the best refrigerant is the admission of cool air.

NARCOTICS AND SEDATIVES.

The term Narcotic is derived from ναρκόω, to stupify or make torpid: sedative from *sedo*, to allay, bring down, or calm.

Narcotics, generally speaking, operate on the nervous system: while sedatives operate more sensibly on the vascular system, allaying its force and frequency. Opium may be said to be narcotic from its soothing powers: and digitalis may be called sedative from its reducing the heart's action. But opium may be both narcotic and sedative, and also a stimulant, according to the doses and the circumstances under which it is given. Abstract twenty ounces of blood; and then five or six drops of tincture of opium would operate as a stimulant, but if three or five grains of solid opium were given it would act both as a sedative and narcotic. Hence you perceive how the same remedy produces different effects. Three grains of opium would have little or no effect as a sedative or narcotic on a patient labouring under tetanus. In the exhibition of all remedies, you should remember that the effect is much modified by the doses; and especially by, what is very important, the state under which they are administered.

The following are some of the narcotics: opium, hyoscyamus, conium, solanum nigrum, belladonna, stramonium.

Of sedatives the following are the most common: digitalis, tobacco, prussic acid, colchicum, nux vomica, ipecacuanha, and some preparations of antimony,—especially emetic tartar.

We can produce all the effects of opium by applying it externally by friction. It seems to operate in this case through the blood, and also specifically on particular parts of the body; for instance, it gorges the brain, and if the congestion be extreme the respiration may be very much oppressed.

Sedatives operate through the blood, and they operate more or less through the brain on the other parts of the body; but they often seem to have a specific effect on particular parts of the body. Colchicum in

an over-dose produces an universal relaxation of the whole system, a state of extreme languor and lassitude, but it then produces also, invariably, a most extensive irritation of the stomach and whole intestinal canal.

Antimonial medicines, such as emetic tartar, in over-doses produce a similar collapse and extensive inflammation of the intestinal canal.

If a small portion of strychnine be inserted into the thigh of a dog it produces its specific effects, as if taken into the stomach, namely, inflammation of the brain.

The pleura is sometimes found inflamed in animals killed by an over-dose of opium.

In respect to the tribe of narcotics and sedatives, bear in mind that the different pharmaceutical preparations require great attention. It is necessary to be extremely careful in drying the roots and bulbs, which should be cut in thin slices; and the leaves, which should be laid in single layers, in broad shallow baskets, in a closet at the temperature of 150°. Immediately they are dry they should be powdered and put in bottles, from which the light should be very carefully excluded. Light should also be excluded from all tinctures, especially those of digitalis and colchicum, the narcotic quality of which is destroyed by exposure to it. The rectified spirit used in making them ought to have its strength ascertained by Sikes's hydrometer, and should be from 56 to 58 of that scale. Proof spirit consists of equal measures of rectified spirit and water; but for the common purposes of pharmacy, one hundred parts of rectified spirit, at 56 or 58 of Sikes's hydrometer, should be mixed with about sixty parts of distilled water.

The following substances are soluble in rectified spirit:— the resins, resinous gums, essential oils, balsams, camphor, pure alkalies, most vegetable acids, and wax. Saline substances are precipitated by it. The mineral acids are decomposed by it and form æther. Mucilage, fæcula, expressed oils, and carbonates of the alkalies are insoluble in rectified spirit.

The efficacy of pale bark chiefly resides in the resin, and it requires rectified spirit to form a tincture.

The efficacy of yellow bark chiefly resides in the tannin and extractive, and requires it to be digested in proof spirit.

Vegetable substances abound with extractive, saline substances, fæcula, mucilage, and narcotic principles. They require, therefore, proof spirit. The bark and leaves of plants give out their most active principles to water about or below 160°, for making extracts which should be prepared *in vacuo*.

Decoctions, if the substance be active, should not be boiled long; and upon the whole infusions are a preferable form of preparation.

OPIUM.

Opium has two active principles—narcotine and morphine. Narcotine may be obtained from a solution of opium in æther or rectified spirit. Morphine combined with meconic acid may be obtained from a watery solution of opium. The tincture of opium is the most active preparation. When experiments are made on narcotine and morphine on the lower animals they produce different effects; and the period seems to be fast arriving when all the active principles of vegetables will be obtained in a small compass.

A friend of mine gave a grain of narcotine to a dog. In half an hour it became stupid and insensible. In forty-five minutes it reeled about and was excessively stupified. In two hours it was apparently asleep, moaned, and was convulsed. In three hours the insensibility had much subsided; and it gradually recovered, but great weakness remained for some time.

To another dog he have a grain of morphine. In twenty minutes the animal was drowsy. In forty minutes it was quiet but not asleep, yet took no notice. In two hours it became quiet and apparently asleep. It recovered in four hours, and no debility ensued.

The effects may be similar in the human subject, but we require something more than analogy. These experiments are exceedingly useful, and may lead to new views in reference to the operation of morphine, &c. A watery solution of opium irritates the eye less than any other preparation. The liquor opii sedativus has a very soothing effect in the opinion of some persons, but others do not think so favourably of it. I have a strong objection to the trial of new remedies, and adhere to the advice given by Pope:

> "Be not the first by whom the new is tried;
> Be not the last to lay the old aside."

There are some preparations which on the whole have less influence. The black drop is an acetate of morphine and narcotine; it is in fact opium combined with verjuice, and it excites less nausea and less constipation than the tincture.

If you give opium to an individual in health, you generally find the stools whitish in a day or two. An American physician says that ten grains of carbonate of potash with a grain of opium will prevent all the distressing effects of the opium. This, if true, is a valuable remark.

Opium applied by friction very often disturbs the brain less, as also when applied in an enema, than when given by the stomach.

HYOSCYAMUS.

The difference between opium and hyoscyamus is this: opium constipates the bowels, which hyoscyamus does in any dose or under any circumstances; and therefore, if you wish to avoid that effect, it is better than opium. It seems rather to assist than to retard the operation of aperient medicines; and when the head is much affected you may often with advantage give hyoscyamus with saline aperients. A small quantity of chalk combined with it will also assist. In many chronic cases hyoscyamus is of great benefit. Colocynth is a drastic purgative, which is often indiscriminately given; but if you combine hyoscyamus with it, it does not produce bloody stools as when given alone. Five grains of the extract of hyoscyamus are nearly equal to one grain of pure opium, if I may judge from my own observation. Hyoscyamus allays irritation of the urinary organs more than opium itself.

CONIUM MACULATUM

is a very good medicine in phthisis pulmonalis and many chest affections, and in some other cases in which there is copious external discharge.

BELLADONNA

may be applied externally in rheumatism. It is extremely useful in iritis to dilate the pupil and prevent adhesion between the iris and the capsule of the lens or the lucid cornea, and to prevent preternatural contraction of the pupil. Bathe the eye with a dram of extract of belladonna in six ounces of water; or put a scruple or half a dram in half an ounce or an ounce of water, and if a drop or two be put in the eye dilatation of the pupil will sometimes rapidly succeed; or you may apply a plaster of belladonna to the temples, but in this case you should wait to see the effect, for a child might be destroyed by it if it should taste the plaster.

Another medicine of considerable benefit in inflammatory fever is—

COLCHICUM.

Of this I have used three preparations, all of which I think very excellent if made as I have mentioned:—namely, the powder of the bulb, the tincture of the bulb, and the wine of the seeds. On the whole, perhaps, the powdered bulb is the best of the three, but it

requires to be very carefully prepared. An extract is made from the seeds, of the effects of which, as I have only used it twice or three times, I cannot speak confidently. The other three forms which I have mentioned I have used extensively.

The tincture of the bulb is made by macerating two ounces of the bulb, gathered early in September, in four ounces of proof spirit, for ten or twelve days, and straining off the tincture.

The wine of the seeds which I have used is made according to the formula recommended by Dr. Williams, of Ipswich, by digesting two ounces of the seeds in twelve ounces of sherry for nine days. The only death I ever saw from colchicum was produced by this preparation. Dr. Williams has spoken very unguardedly of it as a harmless preparation, giving all the good effects of colchicum without any of its bad consequences. I have seen the other preparation nearly produce death in some instances.

Other preparations have been used, as the vinegar and the wine of the bulb, which are mentioned in the London Pharmacopœia. Dr. Scudamore prefers the vinegar of colchicum, which he says is uniformly mild; but I am perfectly confident that it is a very bad preparation. I have seen the most violent effects from it, and it is the worst form of the medicine. It is very liable to ferment. It is a very remarkable fact that Dr. Scudamore has not at all glanced at the pathology of the gout. He has published a large volume without any direct allusion to it.

Even the tincture of the bulb and the wine of the seeds are often changed. The bulb, the tincture, and the wine, all become impaired and even inert by long keeping, and sometimes rapidly so by exposure to the influence of light. They should, therefore, be kept in a dark place, wrapped in paper or in opaque bottles, so as to exclude the light.

My eldest boy had an attack of rheumatism, and I gave him some tincture which had been long kept and exposed to the light. It produced no effect: in fact, it was perfectly inert. The powdered bulb was then given, and entirely removed the attack.

No medicine exerts a more decided effect over inflammation than colchicum, with the exception of opium in enteritis and gastritis when the mucous membrane is affected.

The doses of colchicum must vary according to the circumstances of particular cases.

When the heat is very high upon the surface, and the pulse is very expanded, as in acute or sub-acute rheumatism, and in interual serous

inflammation, especially of the arachnoid or of the pleura, you may give as the first dose five grains of the powder of the bulb, and repeat it every four or six hours while the heat remains high and the pulse expanded. About one drachm is a full dose of the tincture, and half a drachm a moderate dose. Of the wine of the seeds in a state of excitement one drachm morning and evening is about the ordinary dose.

Some inflammations are attended with very high excitement. In all such cases the late Mr. Charles Haden combined colchicum with purgatives.

When any degree of sickness occurs, withdraw the colchicum immediately. Always watch the effects narrowly, especially if it produce sickness with purging; and remember, that it sometimes produces profound languor and lassitude without either sickness or purging; and then also it should be withdrawn, for death may rapidly supervene in the collapse. In the fatal case to which I have before alluded the colchicum was continued after the purging and sickness had occurred. Upon examination of the body after death, inflammation of the mucous membrane of the stomach, and of the whole course of the intestinal canal, was found. Never prescribe the powder of the bulb of colchicum without an aperient; for if you do, and sickness occur, so much powder may remain in the bowels as to endanger the patient's life through its future absorption. I saw one patient's life very nearly sacrificed to an inattention to this circumstance. Sometimes very small doses of colchicum have very serious effects; in all such cases, therefore, it is best to be guarded in future. Most patients will bear it if the excitement be high. Dr. Williams would have us believe we might drink the wine of the seeds of colchicum as a cordial with safety, after dinner: but if given in over-doses it inflames the mucous membrane of the stomach and the whole of the intestinal canal, and gives an universal shock to the system, so that you cannot treat the case as one of inflammation.

The effects of colchicum are shown in one of two ways.

1. By vomiting and purging, and remarkable prostration of strength; and by a tongue red at its tip, and covered with a remarkable grey fur. The tongue is very peculiar: I have never seen one like it in any other case. This state, I am sure, is attended with inflammation of the mucous membrane of the stomach; but if the pulse be feeble, and the heat lower than natural, you cannot in the first instance treat it as inflammation, till you have given opium and brought a flow of blood to the surface.

A surgeon had heard that colchicum seeds were given in cases of rheumatism, but he did not know that they were to be infused in wine or spirit and the tincture exhibited. He therefore gave a lady a teaspoonful of the colchicum seeds, which produced a profound state of collapse. From this she rallied, and had an attack of inflammation of the mucous membrane of the intestines. Afterwards she recovered, by very judicious treatment combined with the allowance of only a very bland diet.

When you prescribe colchicum, always make a point of seeing your patient twice a-day.

2. If the patient should not feel its influence in the first way I have mentioned, it may perhaps be shown by universal faintness. This is the rarest effect of an over-dose of colchicum.

If purging occur with merely nausea, you should withdraw this medicine.

Even mild medicines, in over-doses, operate in the same way. I was called to a delicate boy about eight years old, and as there was not much amiss with him, I prescribed manna, magnesia, senna, and some aromatic water, and nothing more. His mother was a sensible woman, and I directed her to give her son the senna in sufficient doses to operate on the bowels. The next day the boy was near expiring. When I saw him he was lying upon the sofa, with a skin universally cold; with a damp dew on the upper lip; with retching; with a very feeble respiration; and with a pulse so rapid and small as not to be readily counted. He flung his arms about (which is always a dangerous symptom), and then rested his head suddenly upon the pillow; he had twitchings in his face and extremities. His mother had given him a wine-glassful of infusion of senna every hour or two, and had thus induced cholera; and the boy was, when I saw him, in danger of dying. I gave him wine and opium, and he recovered.

Therefore be on your guard with all medicines which operate on the mucous lining of the alimentary canal.

The only difference between female practitioners and nosological ones is this. Female practitioners prescribe boldly; but if they fail, they get alarmed and send for the doctor. The nosological practitioner has an assumption, or name, with some treatment set down for it; and he goes on, day after day, without profiting by his experience, and prescribing for a mere name,—an imaginary thing.

The old nosological method of practising physic is nothing but deception. The exercise of common sense is always useful; and it is just what we want in a physician. This was what distinguished Sydenham.

He flourished when it was the fashion for doctors to wear big wigs, cocked hats, and strange dresses; but he was a man of the most simple mind. Patients under fever in that day had gallons of drink, and died *secundum artem*. Sydenham protested against the practice; and the practitioners of London worried him to death. The same errors are very often followed now, especially in what are called low fevers.

TOBACCO

is another sedantive which has the power of sometimes allaying irritation and pain very remarkably. Sailors on short allowance will live comparatively comfortably on a very small quantity of food if they chew or smoke tobacco. The Indians, in long journeys, mix powdered shells with tobacco, and by it allay hunger for many days. I know a gentleman who chews two, three, or four grains of tobacco, and swallows the saliva till he feels sick, and finds that it allays the pain of gout. In gall-stones it will, by producing relaxation, assist their passing. Never use it in children, even by injection; and in adults, in strangulated hernia, never use it strong.

PRUSSIC ACID

requires very great care; and as it is prepared differently by different chemists, you should always ascertain the strength of it. It has a very remarkable influence over spasmodic cough, and those coughs which return by fits.

ANTIMONY

is another sedative which operates, like prussic acid, on the heart's action. Be exceedingly cautious in using it in cases of irritation of the mucous membrane of the intestinal canal or stomach. It has a different effect on the pulse to digitalis; in the one case you will have a small and quick pulse; in the other a slow and full pulse.

IPECACUANHA

has not the dangerous effects which arise from antimony; and yet, if given too largely, it may destroy a patient's life. Emetine is most active when concentrated.

DIGITALIS.

The great objection I have to it in the treatment of acute and subacute inflammation is, the uncertainty of its effects. You want given effects in a minimum of time, and you cannot obtain them with certainty by digitalis: you waste hour after hour, and perhaps a day, and by

wasting time you may lose the patient's life. Therefore, in acute inflammation, I would not trust to digitalis.

There are two cases in which digitalis is extremely beneficial. The first is in cases of fever, in which, the inflammation having been removed, the skin continues hotter and the pulse quicker than natural, for some days. In these cases, when absolute rest, a bland diet, a regulated temperature, and mild aperients, fail to remove the fever, you may generally succeed by digitalis given so as to bring the pulse down.

Also in chronic inflammation of the lungs, with a harsh cough, with a hottish skin, with a pulse of one hundred, digitalis is very beneficial by lessening the chronic inflammation. But digitalis, like colchicum, requires watching; and as soon as nausea occurs, as soon as the pulse becomes intermittent or slower, or as soon as the patient complains of vertigo, it ought to be withdrawn immediately, for its effects sometimes accumulate in the system.

I recollect a case in the Edinburgh Hospital, which occurred under the late Dr. Gregory, the clinical professor of medicine there, when I was a student. In a case of typhus fever he gave digitalis, till it produced a slight effect on the pulse and stomach. Still the use of the digitalis was continued the next day, and the patient died in convulsions from its effects. Dr. Gregory was very candid, confessed that he had overlooked the sickness, and that the continuation of the digitalis was in consequence fatal.

The impression made upon my mind by this case was so great that I have always watched the effects of digitalis narrowly since. Disorders are frequently produced by what we call remedies; and I might give a lecture on the disorders produced by nosological practitioners.

I saw a gentleman at the west end of the town who was vomiting, with a pulse very low but feeble and intermitting, and with giddiness. I asked his wife if he was taking any particular remedy; she said, "No, nothing but some drops twice or thrice a-day, which were prescribed for him by a physician." These drops were tincture of digitalis, and if continued they would have been fatal.

It is your bounden duty, whenever you employ active medicines, to watch their effects; and nothing surely can be more painful to a medical man of any sensibility than to be convinced that a patient has lost his life from his negligence.

Remember, then, that digitalis powders produce a glassy appearance of the eye, nausea of the stomach, and a slow pulse, with some degree of giddiness; and then it should be immediately withdrawn.

EXPECTORANTS.

They are medicines which increase expectoration; and the best of them are nauseants. Remember the two cautions I have given against the nauseants; in very aged persons, and in cases where there is any bronchial affection.

The shock of an emetic sometimes operates very remarkably as an expectorant, as in laryngitis; but you will be careful of these when bronchitis occurs with a weak respiration.

Some gums and balsams sometimes apparently operate as expectorants; especially copaiba and turpentine, which seem to have a special operation on the mucous membranes, particularly of the urinary organs.

The fumes of certain substances are sometimes directly expectorants; and the vapour of water, and the fumes of tar, vinegar, &c. The poor in the north of England from time immemorial have used these remedies for chronic bronchitis; but acute inflammation may follow their incautious use.

When the expectoration is very tenacious and scanty, the carbonates of soda and potash have a power of rendering it more free and loose.

ASTRINGENTS.

They are those medicines which contract the animal fibres and restrain evacuations.

They are vegetable and mineral; such as alum, tannin, gallic acid, sulphates of copper, iron, and zinc, a low temperature, &c.

When a person's nose suddenly bleeds it is common to apply a cold key to the neck. This impression extends over the whole surface; and hence the bleeding is sometimes restrained. In active hemorrhage from the nose, applying a cold wet cloth to the genitals produces a far more certain effect.

Hemorrhage is either active or passive. When it is active, there is a strong action of the heart and a full bounding pulse, with or without a hot skin.

Hemorrhage occurs, however, with a very feeble pulse and little or no heat on the skin. You have a remarkable example of passive hemorrhage in passive fever.

Active hemorrhage sometimes requires blood-letting.

When the hemorrhage is passive, as in the last stages of typhus fever, the less done the better; rest and a cool bland diet are the best astringents here. I now scarcely ever lose a patient from this cause if there be no ulceration.

If hemorrhage occur with a moist tongue, avoid aperients for two, three, or four days, and give opium, keeping the patient perfectly still, and he will generally recover. Give a little lemon-juice or oxymuriatic acid. Rest and a very bland diet are the two principal things in this case.

Lead, alum, and so on, are used; and yet, though I never prescribe one or other of them, I have no reason to regret it. You have the power of astringents displayed externally, but these first pass through the circulation. I never saw any good from astringent injections into the bowels.

The discharge may not consist of blood; but of serum or mucus, as from the bowels, vagina, or bladder.

This frequently occurs from the bowels, and is called diarrhœa, which proceeds from a variety of conditions, as I have explained in a former lecture; and you will find that there is very seldom any necessity for astringents in diarrhœa. I am sure that many lives are annually lost from the indiscriminate use of astringents, and that persons taking them often get well, if at all, in spite of the doctor.

Chronic inflammation is sometimes attended by a serous discharge, as in chronic ophthalmia; and in these cases astringents are often exceedingly useful, as the sulphates of alum, copper, or zinc.

There is one class of medicines called

TONICS,

which requires a few observations.

I am inclined to think that the application of tonics rests on mere conjecture, which has been handed down from a very remote period. It was the opinion of Themison, the founder of the methodic sect, that all diseases arose from constriction or relaxation; and this led to the selection of appropriate remedies for each of these conditions, and to the extensive application of tonics. That some agents constrict and others relax is a great certainty, exemplified in the effects of a high or low temperature. The ancients supposed this to extend to particular organs, especially to the liver. It is quite a conjecture that dyspepsia is an atonic disease or a disease of relaxation: it arises from a great variety of conditions. I defy any man to authenticate the application of tonics by an appeal to facts. Their use is continued from the laziness which tempts men, like herds, to follow some leader. And the application of tonics is not only conjectural, but highly destructive—more destructive, I believe, in Europe than the plague is in Asia. The employment of tonics was, formerly, very considerable in many diseases, and the con-

sequence was that in acute febrile diseases they were most destructive; and the general result is still exceedingly fatal.

In all those cases where the heat is higher and the pulse quicker than natural, stimulants and tonics are exceedingly prejudicial. They are still given by men of the highest reputation on the continent. They are not to blame. They have imbibed opinions that diseases proceed from weakness; and having obtained the public confidence, they are so lost in business that they have no time to think. If we expect perfection we expect a phantom. If we avoid errors of education we cannot expect old men to abandon them: they will not be instructed by the reflected light of medical science. Dr. Hamilton of Edinburgh, grey in years, is an exception to this remark: he put the satchel on his shoulders a second time, and took the lead in modern pathology.

In erysipelas, cynanche maligna, confluent small-pox, and typhus fever, there are cases in which stimulants are given. The best tonics in these cases are rest, quietude, a bland spare diet, fresh air, and cleanliness.

It is material to avoid all demands upon the strength. What does a medical man mean by a weak stomach? Inflammation of the stomach? Try the effects of stimulants and tonics here if you dare, and you will see the inflammation increased to a frightful extent.

Chronic inflammation is a very common cause of what is called dyspepsia; and in all these cases the tonic plan is equally destructive. If a horse be exhausted by a long journey will you spur him to make him strong? Will you load a labouring man more and more to restore his strength?

Rest and starvation are the two best tonics in the world.

In chronic vomiting, wine, bark, and beef steaks have been given without advantage; and it has been entirely removed by starving a short time.

STIMULANTS.

Stimuli might be divided into local, or those which operate on a part only; and diffusible, though these also operate on a part only, but their influence is extended throughout the whole system. Many aromatics are local stimulants in moderate doses. Other stimuli are diffusible, as alcohol, under the common forms of spirits, wine, ale, and certain spirituous tinctures, æther and musk, castor and small doses of narcotics. Some of these have been called antispasmodics; for instance, musk, camphor, and æther.

Local stimulants are often good vehicles for medicines that are cold, as aromatic waters or camphor julep for Epsom salts.

In many cases when exhaustion arises from blood-letting a stimulus is very beneficial. Death sometimes supervenes on the syncope induced by hemorrhage, especially if the patient be allowed to move about; and the patient often therefore requires to be held in bed. This is especially the case in uterine hemorrhage; in which very small quantities of diffusible stimuli (of which brandy is the best) and quiet are the most efficacious remedies. If the uterus be not quite contracted, brandy given in doses of a tea-spoonful is very beneficial, watching its effects on the pulse and uterus very carefully. The large exhibition of opium in these cases is very serviceable; by it you prevent the tremendous hemorrhagic reaction which is apt to occur when the uterus has contracted after excessive hemorrhage. In cases of extreme exhaustion from any evacuation it is astonishing how you may save life by the exhibition of stimulants and opium. In all these cases keep the patient at rest.

Stimulants are beneficial in some cases of specific fever. In remittent typhus fever, when profound exhaustion occurs in the morning after a very high excitement during the night, a stimulant is highly valuable.

In some ordinary cases of bronchitis, when the skin is universally moist and when there is great expectoration, wine is very beneficial, taking care to admit plenty of fresh air.

After inflammatory fever, when exhaustion occurs, it is much better to save the strength by abstaining from all demands upon it, than to give too much food or too many diffusible stimulants.

After long fasting ordinary food has a stimulant effect; and in such cases persons should return to their ordinary habits very gradually.

EXTERNAL AGENTS.

BLISTERS

composed of cantharides are the most frequently used; the stimulating power of which depends principally upon cantharidin. If cantharides be boiled repeatedly and evaporated to an extract, which is then digested in alcohol and this evaporated, and the residuum be dissolved in sulphuric æther and evaporated again, tolerably pure cantharidin will be procured, and an atom of this will blister in a few hours.

The French use a plaster consisting of an alcoholic tincture of cantharides evaporated, mixed up with a little of the very fine powder of

cantharides, spread on oil cloth, and varnished with isinglass. It is the most elegant, useful, and efficacious plaster I have seen for the purpose. Our plaster is sometimes spread on paper ; but it is best to use leather, round the edges of which adhesive plaster should form a margin, and the blistering plaster should be spread tolerably thick with the thumb. When the plaster has been properly prepared it should be merely warmed before the fire, lest its stimulating qualities should be destroyed, and should be applied close to the cuticle.

If there be any hair on the sternum in males it will prevent the blister operating; it should therefore be shaved off.

The skin of children is so much more irritable than that of adults, that in twenty-four or sixteen hours you will have excessive irritation produced. From twelve to sixteen hours is generally sufficient for the application of the plaster in adults, and half that period in children.

Blisters are apt to produce strangury; and when this is the case the plaster should be removed, as well as any part of it which may adhere to the cuticle. The strangury will be relieved by opiate injections and mucilaginous drinks.

Sometimes hot water has been used to produce rapid vesication. Dr. Beddoes used to have a little narrow deep vessel filled with linen, and boiling water having been poured in, the vessel was inverted and applied momentarily to the part.

Two parts of nitric acid and one of water rubbed on the part with a camel-hair brush till pain is produced will excite vesication. The part should be immediately washed with a solution of carbonate of potass. This is sometimes used on the continent. The cuticle becomes detached and leaves a raw surface.

Caustic ammonia and oil will produce irritation. It may be applied by means of a cupping-glass when you wish to produce a rapid effect: or a hole, the size of the required blister, may be cut in a piece of adhesive plaster, which is to be placed on the part, and cloths wetted with the ammoniated oil may be placed on it.

Blisters are often very empirically prescribed in the inflammatory form of fever; for no better reason than upon the old principle of precedent, a principle which may do very well for law, but is very unsatisfactory for physic. In fact, the empirical remedies for inflammation are bleeding, purging, blisters, and spare diet. When acute or sub-acute inflammation has become chronic, and there is little remaining fever, blisters are often exceedingly beneficial; but they are generally very prejudicial in the commencement of acute and sub-acute inflammation; and it is better to abstract blood before you employ them.

This observation is remarkably applicable to inflammation of the pleura, which I have again and again seen aggravated by blisters.

In emaciated children whose general strength has been broken up never apply a blister at all; for it will frequently produce a large slough, which you cannot heal, and which goes on to destroy life, especially whenever the skin has been affected by any febrile disease, as after scarlet fever, measles, or small-pox.

When you dread any such effect, if you use a blister at all, allow it to remain only a short time, and either place some gauze next the skin, or let the plaster be mixed with a small quantity of mild ointment.

The best mode of treating these sloughing blisters is to apply the chalk ointment, spread upon lint, over the whole sore; and, over this, strips of adhesive plaster and a bandage. I have seen two cases lately which healed very rapidly under this plan.

Sometimes nothing answers better than a weak aqueous solution of opium and an occasional poultice; but, on the whole, I prefer the former plan, because the child often scratches the poultice off.

The diet should be exceedingly bland, the temperature carefully regulated, and the patient should be placed in a fresh atmosphere. A tepid bath should now and then be used; the sloughing part being dressed with spermaceti ointment, spread upon lint, and covered with oil silk. The bowels should be kept gently open by the mildest laxatives.

I saw a case where the emplastrum lyttæ and emplastrum opii, in equal parts, produced no effect except a slight redness on the skin; and a blister alone, afterward, caused a perfect vesicle. Opium seems to exert the same power over irritants externally applied which it does internally.

If a blister be applied to a part of the body which is generally exposed, —for instance, to a lady's neck,—be careful to dress it with the purest white ointment: for stains are very liable to be produced by Turner's cerate or any coloured ointment. For the same reason you should never keep blisters open in these situations; for a permanent scar is apt to be left from a slight degree of sloughing.

RUBEFACIENTS.

These, as the term implies, merely redden the skin without producing vesication.

Sinapisms are often used to produce heat and redness rapidly. Equal parts of mustard and dry crumb of bread, mixed, and made with hot

vinegar into a poultice, and applied warm, will excite irritation in a short time.

Ammonia, capsicum, garlick, emplastrum picis aridæ, &c., are of this class of agents; but I shall recur to them in speaking of chronic affections.

LECTURE XXVI.

COMMON INFLAMMATORY FEVER.

TREATMENT OF INFLAMMATION OF THE BRAIN AND ITS MEMBRANES IN CHILDREN AND ADULTS, OF THE BRAIN FEVER OF DRUNKENNESS, AND OF INFLAMMATION OF THE SPINAL CORD AND ITS MEMBRANES.

Having in two preceding lectures made some general remarks on the most important remedial agents by which we relieve or remove febrile affections, I shall next point out the precise application of those measures to the treatment of inflammation of the various internal organs, in the order in which I described their symptoms. And, first, in the

TREATMENT OF PHRENITIS,

or inflammation of the brain and its membranes, the following are the measures on the combination of which you are mainly to rely.

1. General or local blood-letting:—most frequently both are required.

You will recollect that phrenitis has a stage of increased sensibility in which nothing more than disorder exists, and a stage of diminished sensibility in which that disorder will have passed into disease; that in some forms of very acute inflammation of the brain the fever is not in proportion to the inflammation, though the patient is mentally and bodily oppressed; and that in the sub-acute phrenitis there is less fever and less marked disturbance in the body than in the acute form.

"*Nullum tempus occurrit regi*" is a motto amongst the lawyers, which should be assumed by physicians. A medical man should have that decision which will enable him to save a large proportion of patients labouring under phrenitis. If I wanted to inspire any person with a high degree of confidence in the power of physic, I would select for his notice the most urgent cases of inflammation; and here I would show him the remarkable and decisive effects of blood-letting. If, on the contrary, I wished to shake his faith, and make him a sceptic in physic, I would show him the same disease in its advanced stage, after it had

been neglected in its early stage. A man may not on all occasions produce a calm, but he may become the presiding genius of the storm: he may, as it were, ride on the whirlwind, and direct the hurricane, so that it passes safely over.

There are three forms of treatment of phrenitis:—

1. An active form, fitted for the first stage;
2. An intermediate form, fitted for the middle stage; and—
3. A mild form, fitted for the last stage.

The great efficacy of treatment in all acute affections consists in prompt measures. If the attack of phrenitis be acute it runs a very rapid course, and is only to be arrested by very prompt measures. If it exist in a tolerably healthy subject the first thing to be done is to abstract blood till the pulse merely flutter under the finger, regardless of the quantity.

Sometimes one, sometimes two, three, or four blood-lettings will be necessary to subdue it: if, however, the lancet be employed early, it is seldom necessary beyond the second or third time.

About seven years ago I had an attack of acute inflammation of the brain, which crept on insidiously, being for days preceded by uneasiness in the head. On Sunday afternoon it was so extremely violent as to nearly overwhelm my intellectual faculties. After a long investigation of my own case I directed the treatment. I was bled about eleven o'clock in the evening to approaching syncope with considerable relief. I had pain in the head, with a feeling as if the brain were too large for the cranium. These were entirely relieved by the first blood-letting, which consisted of the abstraction of about eighteen ounces of blood. The pain in the head returned, and twelve ounces more blood were drawn, and I experienced from it complete relief. I was purged copiously, and was perfectly well for twenty-four hours; and then, after having some conversation with my friends, the inflammation returned. On the following day I was bled twenty-five ounces, and the operation was followed by deep and long-continued syncope. Had I been prudent, two blood-lettings would have been sufficient.

Sometimes very slight occasions reproduce the inflammation when the brain is thus predisposed.

Last year I saw a case of inflammation of the brain with a medical practitioner, in which the patient was bled four times to approaching syncope, besides local blood-letting by leeches, so that in all about one hundred and eight ounces of blood were lost. You must not then depend upon any determinate quantity.

Another gentleman, a pupil of mine, was attacked by acute inflam-

mation of the brain, for which I bled him to approaching syncope: that is to say, a vein was opened, and he fainted under the shock of the operation, when not half an ounce of blood had been drawn. Yet this syncope as effectually removed the inflammation from his brain, as that produced by the abstraction of one hundred and eight ounces of blood did in the other case which I have just related. It is the effect, not the quantity of blood, you are to look at.

Do not, by bleeding in small quantities day after day, exhaust the patient's strength, but produce at once a state bordering upon syncope; and the less blood you draw to produce this state the better.

A renewal of the same symptoms should teach you to repeat the bleeding. The appearance of the blood is sometimes taken as a guide with regard to its repetition. When the buff on the blood is abundant this is generally a good criterion, especially if it be also cupped. But the best rule is the removal of the pain: while the pain and fever continue active measures are necessary.

When the inflammation is sub-acute it is frequently removed by repeated leeching, or leeching with general blood-letting.

In the first instance it is generally best to bleed in the same decisive way as in acute inflammation. One or two bleedings will here be sufficient; and very slight inflammation may be subdued by leeching. Either in this or in the acute form, when you have broken the violence of the affection it will almost entirely yield to local blood-letting.

I saw a lady labouring under sub-acute inflammation of the brain. In the morning I ordered her a purgative with the application of twelve leeches. She was not at all relieved when I saw her in the evening; and I therefore bled her to approaching syncope, which occurred when about twelve ounces of blood were abstracted; and after that she had no uneasy feeling.

It is very fortunate to crush the inflammation in this way, for uneasiness often remains without any fever. And you should not forget that chronic inflammation very often supervenes on the acute and sub-acute forms: the fever will entirely cease, but the pain continues; and so long as this remains the patient is never secure.

Some children labour under an intermediate stage, in which the trunk is warm and the extremities cool. These cases require delicate management, and bear moderate abstractions of blood generally very well; if the pulse rise after bleeding you may proceed, but not otherwise.

Children in the acute form are liable to be taken off suddenly by an attack of convulsions. After convulsions in infants or adults there is

often a damp skin left, and an expression of alarm or anxiety in the countenance. Convulsions allowed to go on a second or third time the mischief is generelly done, and there will be effusion or rupture of a vessel.

Do not bleed to actual syncope in children, as they are apt to fall into convulsions, of which they may die. Another reason is that a violent re-action frequently takes place after syncope. Children do not recruit from very large bleedings like adults, especially in a confined atmosphere.

Individuals who have drunk largely of wine or spirits, if the diet be not attended to, are liable to sink suddenly after copious blood-lettings.

A patient was brought into the Fever Hospital with inflammation of the brain, the symptoms of which were promptly met by the application of sixteen leeches and by bleeding, so that the inflammation was soon subdued. I put him on mild treatment, and his powers seemed to be failing, and then he was in a state of collapse, and I found he had drunk hard, which I ought previously to have ascertained, and allowed him some stimulus.

Most physicians are in the habit of acting on general principles; they acquire a certain tact of discriminating complaints and prescribing for them systematically; but a medical man should be careful to investigate complaints, especially exceptions to general rules: otherwise, his blunders, the consequence of his neglect or inattention, will remain as dark specks in the picture of his life.

If you subdue the first symptoms of this disease, be content to do little afterward.

It was the custom of an intelligent friend of mine, who practised in a hot climate, to pay so much attention to his patients that they frequently died; while a negro practitioner lost but few, comparatively, of his patients under the same disease. The reason of this was, that the negro saw his patients the first day, and then left them to the care of intelligent nurses, by whom their diet was attended to.

If you wish to bleed a child you should never mention it, or if you do mention it never retract and say it shall not be done. It may possibly perhaps occur that some deception is necessary, but I have never found it so; and I think it is not only morally wrong but impolitic in a medical man to have recourse to anything resembling falsehood.

I was requested to see the child of a medical man, which it was necessary to bleed, and its father was getting his lancet, &c. ready for the purpose; but as the child objected very much to it, the medical man said, and solemnly assured the child, that he would not bleed it, and

the next moment thrust his lancet into the jugular vein. Horror at the conduct of its father, and the operation, caused it to fall into a collapse for twenty-four hours; and although it recovered, it was very probable that it would have died.

When syncope is approaching, watch, from time to time, the pulse, and you will find it becoming a mere flutter, the respiration becoming weak, and the stomach becoming irritable so that there is a tendency to retch.

Bleeding from the nose is sometimes an unfavourable symptom if the disease be far advanced; but in the early period it is invariably beneficial.

The most ancient mode of abstracting blood was from the nose. The French frequently apply leeches to the nostrils in diseases of the head; and the practice might be advantageously renewed in England.

After bleeding a child irritation arises, and, if continued, inflammation is often renewed.

One bleeding in this disease in children is all that is necessary; but if the symptoms return it may be repeated; and from the circumstances of each case must be determined whether local or general blood-letting should be used.

Sometimes leeches are sufficient at first; after which nothing more is necessary than purgatives and a regulated diet. Always, if the child be suckled, let the nurse have regular sleep; this is of great importance.

Sometimes the inflammation is chronic, without fever.

I saw a boy at a school who was playing leap-frog, and who had leaped over one boy's back, and then directly pitched on his head. He had an attack of inflammation of the brain, which, when I saw him first, existed without fever. He had intolerance of light and noise, uneasiness in the head, dropping of both eyelids, but no fever. The noise of the school appeared to have maintained the inflammation.

Common sense is very often abandoned in the minds of the public, as it is also in the minds of the profession. The older writers frequently referred to the *lædentia*, as well as to the *juvantia*—to those agents which do harm, as well as to those which operate beneficially; and in truth both of them are of great importance in the treatment of diseases.

2. The use of aperient medicines greatly assists the efficacy of bleeding, especially in the first stage.

In the first stage aperients are very necessary, especially purgatives which are then the best. You should select such as will produce loose watery stools. Upon the whole, a combination of aperients in small

quantities answers best, operating in a moderate dose better than a larger quantity of either aperient alone; for example, three grains each, of calomel, rhubarb, and jalap; followed up by half an ounce of castor oil, or a draught containing a drachm each of sulphate of magnesia and manna. Or you may give five grains of calomel, with twelve grains of rhubarb; and after that the patient may take two or three table-spoonsful every hour or two of a solution of an ounce of sulphate of magnesia in half a pint of compound infusion of senna. This well generally answer after blood-letting.

In many cases where the skin is intensely hot you will often derive advantage from infusions of tepid water in promoting the action of purgatives.

If the stomach be very irritable or the bowels very torpid, these are never overcome but by blood-letting; and then purgative medicines will act almost immediately. In fact, blood-letting may here be considered as a purgative, at least preparing the way for aperients.

Many individuals go about with chronic head-ache, entirely arising from irritation of the mucous membrane of the large or small intestines. Apply leeches repeatedly to the epigastrium; and the tongue becomes pale and the head-ache leaves the individual.

In the last stage, when the sensibility is diminished in the whole body, and consequently in the intestinal canal, cathartics will not irritate the mucous membrane dangerously; and you may often give drastic aperients with great benefit. For this purpose you may frequently combine scammony and gamboge with calomel, rhubarb, and jalap; and follow it up by the infusion of senna with manna and sulphate of magnesia, in full doses. In this way, where a single aperient would often fail, a combination of medicines will succeed.

If ever you find the tip of the tongue becoming red under the operation of aperients, be quite sure that irritation of the mucous membrane of the intestinal canal is excited by them, which may be highly dangerous.

In all cases where irritation of the intestinal canal exists in inflammation of the brain, you should relieve the bowels by mild laxatives; for which purpose cold-drawn castor oil is the best medicine: or if you give purgatives, you may consider the best to be a grain and a half each, of calomel and jalap, followed by cold-drawn castor oil. If you give harsh purgatives you invariably aggravate the affection both of the head and of the intestinal canal.

Some authors say there are hydrocephalic stools, that is, evacuations which indicate the presence of hydrocephalus internus; but from these

authors I differ in opinion. Calomel and scammony will change the appearance of the stools to a green colour, with a sickly and faint smell; or to an appearance like chopped spinach, which is produced entirely from calomel, I think. This is sometimes inducing practitioners to continue calomel to a great extent, thinking these stools morbid. If you have any doubt about the matter, give medicines which do not alter the stools, as cold-drawn castor oil.

Castor oil sometimes unites with the mucus of the intestines, forming clots like curds.

In some rare cases calomel has distinctly cured effusion, and in these cases it produced copious mucous stools. Calomel I think is the best purgative in these cases. I think it acts on the stomach, liver, and bowels. A remarkable effect of it in children is its relaxing power: thus you often find the child feels faint and sick under its operation, or immediately after; and this sometimes relieves the brain with great rapidity in children and in adults.

I am confident that I am yet but a mere student of physic, that I have many things to learn, and many errors of practice to correct: formerly, I believe, I committed an error in prescribing calomel too largely. I find all the good effects from a small dose which I formerly obtained from a larger dose; and with these a small dose produces no bad effects.

When the child is very much relaxed do not repeat the calomel but for very good reasons. I generally give from one grain and a half to three grains of calomel three times a-day, with a little powder of rhubarb, or powder of jalap; following this up with cold-drawn castor oil or sulphate of magnesia.

When you give a child medicine never mention it. Calomel may generally be given with a little sugar. Some children will smell rhubarb. Give sulphate of magnesia by throwing it into the intestines dissolved in water, or it may be administered in almond emulsion. Castor oil may be given in arrow-root or gruel.

The effects of purgative medicines should be watched. Calomel is not absorbed in children as in adults, but when you have bled a child absorption is probable; and ptyalism in children is a very serious evil indeed, and one which should be avoided. Calomel is most beneficial in those cases of affections of the head complicated with bronchial and pneumonic affections.

The time of administering medicines is important in febrile diseases. In the inflammatory form of fever the best plan is to give calomel, rhubarb, and jalap, in the morning; and the other aperients three hours

afterwards, repeating them every hour or two till the proper effect is produced, so that the patient may sleep at night. But if there be urgent inflammation of the head or chest, order purgatives in the evening if you be called in at that time, and do not loose a night. In less urgent cases it is better not to disturb the patient in the night. One circumstance you should be on your guard about. After large bleeding and purging, persons are apt to become faint and exhausted; and then castor oil is the best medicine, and you should avoid saline purgatives. Do not allow the patient under these circumstances to get up to a close stool, or he is very apt to die from syncope. I think I have met with a dozen instances where patients have died in this state after the inflammation has been subdued.

This observation applies to the last stages of peculiar fever. If a patient persist in getting up, always watch him, and have a glass of hot wine and water ready: if he become faint, lay him flat directly, and pour the wine down is throat: for they often die with very great rapidity.

3. The administration of colchicum is a measure which you may generally continue with great benefit so long as the pain and fever remain, recollecting to withdraw it as soon as ever it produces sickness. You may give twice or three times a-day from four to five grains of the powder of the bulb of colchicum, with two scruples of sulphate of potass, a scruple of carbonate of potass, and sufficient lemon-juice and water to make an effervescing draught.

4. Cold applied to the head. Always shave the scalp, and apply ice-cold water locally. While the head remains hotter than natural (and it generally does so while the inflammation continues) so long is the application of a cold cloth to the head beneficial, provided it does not distress the patient; for then it does harm. Generally, it is remarkably soothing and beneficial. A great error is often committed by applying a thick towel folded, so as to prevent evaporation, and the head becomes remarkably hot. A single piece of linen, lightly applied, generally answers the purpose. I do not recommend the use of ice enclosed in a bladder, because it is too heavy.

In children shave the head and sponge it, taking care to dry it well.

Do not lay cold water on the head if the bronchia be inflamed, or it may aggravate that affection.

In cases where jactitation exists, pouring a stream of water from a height upon the head will sometimes procure sleep after other means have failed; but in ordinary cases the method I have already mentioned is best.

Always attend to the lower extremities, which are very often cold, and should in that case be wrapped in warm flannel; or you may apply bottles of hot water to the feet; or, if these fail, sinapisms will generally restore the circulation and increase the animal heat in them.

Attend to the clothing of the bed and to the temperature of the apartment. In hot weather, such as occurred in the summer of 1818, I have seen phrenitis resemble that of tropical countries; the symptoms being far more aggravated and the disease far more rapid in its course than in cold weather, and the delirium occurring early.

5. A blister.

I have generally a dread of the application of blisters to infants, on account of what is called the local and general irritation.

In the first stage never apply a blister until you have reduced the pain by bleeding; and then put it on, if any where, over the sternum or the epigastrium, or upon the nape of the neck, and not upon the head, where it would raise the temperature of the head, create local irritation, and aggravate the inflammation.

In the second stage of phrenitis, both in infants and adults, blisters are very often beneficial; for instance, when inflammation is assuming a sort of chronic character, when the patient is becoming preternaturally torpid to light and sound, and indifferent to all surrounding objects, sinapisms to the feet and blisters to the head are very useful.

Blisters should not remain so long on infants as on adults; for they sometimes assume a sloughing character, and under the irritation occasioned by them the child sinks.

6. Perfect quiet.

Nothing distresses a patient so much as noise; sometimes it destroys his life. It is a good plan to put cotton in the ears, and to lay straw in the street if the situation be noisy. No persons but those absolutely necessary should be admitted; no clock should be within hearing; the patient, especially in London, should be placed in the least noisy room in the house, and murmurs underneath the room should be prevented. This may be negative practice, but it is very efficacious.

In the advanced stages of the disease avoid every species of disturbance.

I have sometimes seen patients lost from over-officiousness. Too much is generally done in nursing, which is more dangerous in inflammation of the brain than any other disease.

When I had an attack of this nature I was greatly injured by the over-officiousness of a friend who came to inquire how I was, and wished very much to see me. He would fain, also, have stopped all

night. I could hear the murmuring of the conversation in the room underneath me, and was obliged to beg that it might not continue.

I attended a child which had inflammation of the brain, and its mother was a noisy bustling woman, who was perpetually running backward and forward in the room. Its father also was very anxiously watching its wants, or, for lack of those, creating artificial wants ; so that I was sure the child was considerably injured by their over-officiousness. I obtained from them a promise not to see the child for the next day or two ; and when they left it, the child, which till then had not slept for three days and three nights, fell into a sleep, from which it awoke apparently much refreshed, and afterward soon recovered.

7. Elevation of the head and trunk.

This is very important, so that the blood may ascend with more difficulty but descend with more facility ; and it may be accomplished by placing a block of wood six or eight inches high under the bed-posts.

8. Exclusion of light is another point.

It is surprising how the light disturbs the patient in the first stage ; he tosses about and becomes delirious : but if you darken and cool the room he often falls into a tranquil sleep.

9. Attend particularly to the diet.

During the first stage it must be as bland as possible. A cup of thin arrow root, or gruel, or barley water, may be allowed twice or three times a day. Debility is the effect and not the cause of the disease.

Do not enter into any contract with the nurse or friends with regard to the diet, but dictate and enforce implicit obedience to your rules. And never alter any rule which you have laid down if you know it to be correct, on account of any thing which is said by the nurse or by over-anxious friends.

Infants cannot bear fasting so well as adults, and require very light supplies of food : they sink as rapidly under fasting as drunkards do under abstinence from their accustomed stimuli.

Nothing answers half so well as the breast of the mother or nurse.

With regard to the breast of a nurse, always get another nurse for the child whose mother you employ. It is almost a species of murder to get a wet-nurse who puts out her own child to die by being fed by hand. This is important to the welfare of both parties, for if the nurse's child should die her mind is disturbed.

If the child be weaned you may allow barley water, arrow root, or gruel.

10. Attend to the drinks.

Water is the best drink. If you see a child's lips moving frequently

you may be certain it is thirsty, and if you give it water by tablespoonsful it sometimes takes it with exceeding avidity, and frequently falls asleep. Infants often have their lips parched, and are very much distressed by thirst; and I have seen many lives saved by allowing them water till they are satisfied.

11. Opium is very beneficial when the inflammation has been removed.

In the first stage it would be very prejudicial; but after evacuations by the lancet and purging, a state of extreme irritation often supervenes; the patient becomes extremely restless, frequently changes his position, tosses about in the bed, and rolls his head on the pillow; the pulse is rapid, feeble, and tremulous; the respiration weak, short, and hurried; and the patient complains, not of pain, but a sensation of lightness in the head; and then a full dose, for example, two or three grains, of opium is extremely proper, and will often save life.

Sometimes in children there is a state of extreme general irritation. The arms are tossed about, the breathing is rapid, the pulse small, weak, and thready; and the countenance anxious. In this state I have found great benefit from a twelfth part of a grain of opium, or one grain of compound powder of ipecacuanha, or two drops (and in very young children one drop) of tincture of opium, or two, three, or four drops of tincture of henbane. It is astonishing how these anodynes relieve irritation. Many children would die but for the exhibition of opium, the effect of which is that the child falls into a tranquil sleep, from which it awakes with a pulse reduced in frequency, and sometimes with a desire of food. The return of sleep and appetite are sure signs of convalescence. The sleep is very profound, and you should be very careful that it be not disturbed.

You must be cautious in the use of narcotics, and precise in their application. The abuse of this class of medicines is almost as great as that of aperients in this country.

The Italians give digitalis, antimony, and prussic acid, in all inflammations; but commonly I think simple medicines will do more good than sedatives.

Digitalis is useful in the simple fever which remains after inflammation is subdued; but it will not be of much service in phrenitis, because it is uncertain, and wastes time where promptitude is your object.

Calomel is very useful as a purgative, or, in protracted cases even pushed on to ptyalism. When the patient at the same time has bronchial inflammation, he is heavy and appears asleep, and if roused soon relapses, and becomes more and more heavy; and then calomel is ex-

ceedingly beneficial, and if not given daily the patient will sink into a state of complete insensibility, and die of effusion.

Patients are liable to relapses of phrenitis from slight occasions; therefore great care should be taken to regulate the diet and the bowels for some time.

Phrenitis is almost invariably aggravated by emetics.

An affection of the ear is sometimes complicated with inflammation of the brain; in some cases following small-pox, in others following measles, or scarlet fever, or typhus fever, and sometimes arising from common inflammation of the fauces and eustachian tube.

From whatever occasion it arises, it is inflammatory; and if this inflammation occur in bad habits, it goes on till caries of the petrous portion of the temporal bone exists; the dura mater, and at length the brain is affected.

If during its progress there be much pain in the internal ear, abstract blood, and apply a blister behind the ear. Strict attention should also be paid to the diet and to the state of the bowels.

TREATMENT OF THE BRAIN FEVER OF DRUNKENNESS.

1. If the bowels be not previously open, give an aperient; otherwise there will be no need of it.

You must be cautious how you use harsh purgatives, or any means which produce copious evacuations. The mild aperients are best, such as sulphate of magnesia with infusion of senna. If you exhaust the patient much he sinks into convulsions and suddenly dies. Even in genuine phrenitis, if you have bled largely, be cautious of exhausting the patient by purging.

2. Give opium according to the previous habits and present state of the patient. Opium is the main remedy, especially when there is a soft compressible pulse and a pale face, and should be given in full doses. I have often given sixty drops of the tincture, or three or four grains of opium, at the first dose; and two grains of solid opium every four, five, or six hours afterwards, until the patient has fallen asleep. An old spirit drinker will bear larger doses than a novice.

Go on thus for forty-eight hours; it will succeed in that time if at all; and if it fail so long, it is wrong and often hazardous to push it further. If it produce long tranquil sleep, it almost invariably succeeds; if it fail, you should substitute for it purgatives, cold to the head, and the tepid shower bath. Cold bathing should only be used in very robust subjects.

3. Good mutton broth, or beef tea, is the best diet; with a tolerable quantity of good malt liquor as common drink.

4. Avoid restraint in almost all cases. If the strait-waisteoat were applied and the patient submitted to it, it might be used with efficacy. But this is not the case; the patient generally is restless and violent, and wants to leave the house. And if he struggle under restraint, he will become extremely exhausted; the perspiration will pour from the surface; the pulse will become tremulous and fluttering; the respiration weak and hurried; and he will become convulsed, and die.

5. I would say passive exercise is very often beneficial when you fail in procuring sleep by opium. The patient should be placed in a carriage, and driven rapidly into the country and back again, the wind being suffered to play about; or he should be put in a boat, and rowed rapidly up and down the river. Of course he should be watched lest he should leap out. Or if at a sea-port, he may be allowed to walk on the pier, so that a stream of cold air may blow upon him.

6. Cold or tepid affusions are often very beneficial. In young strong individuals cold affusions are frequently remarkably well sustained.

This affection is, you will remember, generally marked by a pale face; a pallid, damp, and relaxed surface; tremor of the hands; and a soft, compressible pulse. You sometimes see this tremor in dram-drinkers in a morning, or in opium eaters, and it goes off on taking the accustomed dram or dose. You see it often in some persons, especially in females, under mental emotion.

The death-warrant of the Earl of Essex is now in the possession of the Stafford family, and the signature of the queen is evidently written with a very tremulous hand, while her other signatures of the same date have not that character.

Whenever you see this tremulous state it is generally an indication of some stimulant or narcotic being required.

7. The American physicians recommend emetics in this affection, and not only speak favourably of their effects, but state confidently that they are extremely beneficial. I have no experience of them, never having used them in these cases.

8. I would warn you of bleeding in this affection; for I have seen patients sink very rapidly from copious and repeated losses of blood; indeed, all whom I have seen copiously bled have died. The rule in bleeding is to observe the pulse and the heat. In the onset, if the pulse be steady, strong, full, and bounding, while the heat is universally a little above the natural standard, you may abstract a small quantity of blood. Otherwise blood-letting in this affection is generally prejudicial.

When convulsions occur lay the patient prostrate, and give him wine, spirit, or opium.

There are remarkable ebbs and flows of strength; and when the relaxation is very great, wine and water should be administered.

TREATMENT OF INFLAMMATION OF THE SPINAL CORD.

1. Blood-letting; general or local, according to the degree of the inflammation.

When it is acute, you must treat it as you would inflammation of the brain and its membranes.

It is mostly sub-acute; and then moderate bleeding from the arm, with leeches to the epigastrium or head, will generally suffice to stop it, especially if you keep the bowels open every day.

When patients breathe a tainted atmosphere be cautious of leeching a part which is exposed, as the temples; for the punctures and adjacent parts are very likely to become erysipelatous. If you have any doubt rather apply leeches to the epigastrium than to the temples.

2. Purgative medicines, such as calomel followed by sulphate of magnesia and infusion of senna, act exceedingly beneficially; and the continuance of them must be regulated by the duration of the disorder. I have seen a great many cases of sub-acute inflammation removed by saline aperients.

3. Blisters in the course of the spine.

4. Rest in the recumbent posture.

5. Spare diet.

These are the most efficacious remedies. Patients often complain for a long time after the attack of a loss of power.

LECTURE XXVII.

COMMON INFLAMMATORY FEVER.

TREATMENT OF INFLAMMATION OF THE FAUCES AND AIR-PASSAGES, LUNGS, PLEURA, AND PERICARDIUM.

The following means are most to be relied on in the—

TREATMENT OF CYNANCHE TONSILLARIS.

1. Blood-letting.

You must be guided by the strength of the patient, and by the degree of the fever and inflammation.

If there be simple inflammation about the tonsils; if the patient be very robust, and the inflammation acute; if there be an intensity of pain, with a hot skin; you may bleed him in the erect posture to approaching syncope. This will generally produce a decided effect on the local inflammation, and be very beneficial; for this inflammation otherwise may spread to the pharynx, and thence to the larynx.

If the patient be a weak and broken-up subject, of spare habit, and fair lax skin, local blood-letting answers a much better purpose, and will be all that is necessary. And sometimes this will be sufficient when the patient is robust; it has great effect in inflammation of the tonsils. From eight to twelve leeches may be applied to the throat in the first instance.

In the inflammation which takes place in scarlet fever there is a tendency to ulceration, which is rapidly removed by the application of leeches to the throat, followed by an emetic and by daily purgatives.

But beware that you do not use general blood-letting in weak subjects with indications of previous bad health, a faded skin, and a weak intestinal canal, which, in this case, is the pathological predisposition.

Inflammation of the tonsils very often occurs in medical students; and if you bleed them copiously they will lapse into consumption, but will get well rapidly if you apply leeches and prescribe the warm bath and mild aperients.

2. Emetics are in most cases extremely beneficial.

They operate in these cases by inducing a mechanical change in the part itself; by the nausea and relaxation they give rise to before and after their operation; and by increased secretion from the part which they occasion. There are two circumstances to remember in the application of emetics to this affection.

1st. When it occurs in a subject of a strong full habit it is always safer to premise blood-letting, lest some affection of the brain should be induced by the emetic. Vomiting can only occur during expiration when the lungs are collapsed, and then offering considerable resistance to the passage of the blood, the brain, which is then temporarily, might become permanently, congested. I have only seen two cases where affections of the head have arisen from vomiting; but I have again and again seen ecchymosis under the conjunctiva from an emetic, which transudation of blood might have occasioned in the brain.

2d. When it exists in spare weak habits, pause and ascertain if there be any inflammation of the mucous membrane of the stomach and intestinal canal, in which case an emetic would be extremely prejudicial, and might be fatal.

In fact, I would not advise you to prescribe emetics empirically as set down in books. It is an empirical practice to give an emetic in incipient fever because it is fever; for this abstract term involves conditions essentially different. I have seen muco-gastritis evidently excited by an emetic.

The best emetics in cynanche tonsillaris are tartrate of antimony, or ipecacuanha; and after its operation you should give—

3. An opiate.

The best for an adult is twenty drops of tincture of opium.

4. Aperient medicines are beneficial.

Act on the bowels freely by some combinations of purgative medicines. Be cautious, however, about calomel, especially after blood-letting, lest you produce ptyalism, which may be followed, in broken-up subjects, by ulceration of the tonsils and larynx.

5. A blister is sometimes exceedingly beneficial when the inflammation has become chronic: but it has not much influence over acute and sub-acute inflammation as far as I have observed, except that in acute attacks it is generally very prejudicial; it should never, therefore, be applied in these cases till bleeding has been premised. Recollect that a stain may be left from dressing a blister with Turner's cerate; therefore the purest spermaceti liniment should be used.

6. Rubefacients may be tried when the inflammation assumes the chronic character, and will be found very beneficial; but if you be

prompt in subduing the acute inflammation I think rubefacients will seldom be found necessary.

7. When the tonsils are proceeding to suppurate, which is known by throbbing and excessive distention, and thickening, and a cessation of pain, or by spasm, a poultice applied externally is sometimes exceedingly beneficial in promoting the process.

The abscess hardly ever requires to be opened. But sometimes the abscess is so large as to press on the epiglottis, and threaten suffocation. If the patient be much distressed you may open it; but whenever you have occasion to puncture the tonsil, remember the situation and course of the internal carotid artery, which lies very near it, lest you wound it. Do it gently if at all; but the abscess generally bursts by coughing, and at length the patient spits up a quantity of pus.

8. Gargles are of some benefit in promoting the flow of saliva and increasing the secretions of the parts about the tonsils, though not so much as is generally supposed. They are more beneficial when ulceration exists in promoting healing, than acid gargles are in promoting secretion in the first stage. A good form is the infusion of roses of the London Pharmacopœia.

9. The diet should consist of gruel or other farinaceous food.

Persons who have had cynanche tonsillaris have an acquired predisposition to it; so that it frequently returns when they become exposed to those remote occasions which excite it. The best way to prevent this is to harden the system by a shower bath, at first moderately warm, and gradually lowered to 60° Fahr. Such persons should wear strong shoes, be warmly clothed, and use a regular diet. The throat should be washed with cold water every morning, and a glass of cold water should be drunk every morning.

After cynanche tonsillaris the tonsils are frequently very large; and in those who have had it frequently there is a liability to chronic enlargement; and thus there is apt to arise a chronic cough, the seat of which may be mistaken, and it may be supposed to be in the lungs.

Two physicians attended a young lady who they thought had consumption, for which they treated her. The tonsils became troublesome and were removed, and then the cough ceased.

The tonsils will after a time shrink to their natural size if the bowels be regulated and the diet be properly attended to.

TREATMENT OF CYNANCHE LARYNGEA.

This is the most dangerous inflammation which attacks the human

body; it has a natural tendency to destroy life, therefore you must be prompt.

1. The first thing is an emetic.

No single means of treating inflammation is so beneficial in this affection as an emetic of antimony and ipecacuanha.

For an adult the dose may be two or three table-spoonfuls, every quarter of an hour until vomiting is excited, of a mixture consisting of three grains of tartarized antimony and one drachm of powdered ipecacuanha in six ounces of water.

I have more faith in antimonial emetics, in laryngitis, than in any other remedy taken singly, if they be given so as to produce full and free vomiting.

I recollect I saw a woman on the point of being suffocated in acute laryngitis. Her voice was suppressed, and she pointed repeatedly with her finger to the seat of her distress. I gave her a dose of antimony and ipecacuanha; and after vomiting she spoke distinctly; and the next morning when I saw her she was perfectly convalescent.

2. Bleeding, both general and local, is necessary if the emetic fail to remove the affection.

Blood-letting exercises upon the whole less influence over this than over any other form of inflammation.

I saw the servant of a medical man at the west end of the town from whom upwards of one hundred and sixty ounces of blood were drawn in three or four hours under an attack of laryngitis. I saw standing by the man's bed three or four large hand-basins nearly filled with blood; and yet each blood-letting, though carried to approaching syncope, afforded only temporary relief. Beside this general abstraction of blood, thirty leeches had been applied over the larynx; yet he died of inflammation of the larynx in a few hours.

I saw another patient who was bled to approaching syncope under acute laryngitis with no relief.

Blood-letting will not generally remove inflammation of an acute kind seated about the larynx. It is, however, an useful auxiliary in the treatment. Acute laryngitis is sometimes removed by it; but when the inflammation is concentrated about the epiglottis and rima glottidis, bleeding alone will not subdue it, but relief is to be sought in a combination of measures; namely, blood-letting, emetics, and aperients.

3. Aperient medicines.

By exciting the action of the mucous membrane of the intestines you decrease the action of that of the air-passages, and hence you will

be led to the exhibition of aperients; and the best is a combination of calomel, rhubarb, and jalap, followed up by castor oil.

4. In many cases colchicum is very beneficial. The best diaphoretic in these cases is one grain of ipecacuanha every one, two, three, or four hours, or two grains of colchicum every three, four, five, or six hours, with a regulated temperature, especially during the night.

A friend of mine was saved in laryngitis when all other means failed by the relaxation produced by a tobacco enema. Nausea induces relaxation, diminishes the heart's action, and excites perspiration; and these effects you should have in view in the administration of nauseating doses of colchicum or ipecacuanha.

5. Blisters are useful when the inflammation has been rendered chronic, but not till then.

6. The patient generally feels very great relief from the inhalation of steam.

7. Regulate the apartment as to temperature; for if he breathe cold air it aggravates the inflammation and chills the skin. If he breathe air of the temperature of 60° Fahr. it relaxes the skin and is grateful to the parts.

8. The drinks should be tepid; and if the skin do not secrete under this treatment the patient may make use of—

9. A warm bath,—avoiding a chill of the surface. And if this fail you will almost always succeed with ipecacuanha (as I have already suggested,) repeatedly given till some degree of nausea is excited; but in the administration of this medicine remember to observe attentively the state of the stomach and bowels. You should withdraw it the moment the end you require has been answered. In bronchitis I have seen it produce marked inflammation of the intestinal canal.

I have seen laryngitis greatly relieved by a spontaneous discharge from the nose.

10. Sometimes there is a harassing, hard, short, dry, ineffectual cough, which is best relieved by a pill containing a grain or a grain and a half of opium. By these means you will sometimes remove the symptoms; but you will have reason to be well satisfied if chronic laryngitis remain occasionally; and if great care be not taken this may be followed by another attack of acute inflammation, and then the same treatment must be repeated.

It may happen that all these means will fail and the patient is obviously sinking. An operation will only be beneficial in this case when the disease is confined to the larynx; then it may be used with a chance of success; but when the false lining extends into the bronchia

it will fail. If you think of performing this operation, always request a consultation with some person of talent and integrity; which two qualities are requisite, the one for the patient, the other for yourself. Never perform the operation by yourself, except in cases where a consultation cannot be procured without loss of time. Never undertake any operation without a chance of success; and when you undertake one where the chance is but faint, always explain the probability that it will not even relieve the patient, but that it affords the only chance.

The best place for the operation is between the thyroid and cricoid cartilages.

Two friends of mine have performed this operation, both unsuccessfully from blood getting into the trachea and suffocating the patient.

I would not allow the operation to be proceeded with till the bleeding had been stopped; the vessels should be secured previously to opening the trachea.

When chronic inflammation of the larynx continues nothing is more beneficial than an occasional nauseant, followed by a dose of opium. A full opiate will often quickly relieve it. Ipecacuanha should be given in nauseating doses, and you should keep up the nausea daily for some time.

If the bowels be not relieved by the ipecacuanha, give the patient sulphate of magnesia, or cold-drawn castor oil. Keep the apartment at a temperature of 60°, and prescribe a spare diet. Thus the patient sometimes may be cured; or if not the inflammation may slowly go on to ulceration, or a relapse of the acute form of inflammation may recur. The warm bath may be occasionally used, and the steam of water inhaled.

Although nauseants are sometimes very useful in the chronic form of inflammation about the larynx and the trachea, given so as to keep up some degree of nausea, be careful how you excite nausea in very young children. I have been deceived now and then by the confident declaration of friends regarding this practice.

You should consider that a young child is, or ought to be, growing, and requires therefore a large quantity of food. Now if the stomach be disturbed twice or three times a day, extreme irritation occurs, and the pulse flutters with nervous rapidity, and the nauseant, whether it be ipecacuanha or antimony, excites often inflammation of the intestinal canal; and they sometimes sink very rapidly. I have seen at least six children within the last six months, who I am perfectly confident have died from the irritation of ipecacuanha or antimony on the mucous membrane of the intestinal canal. Nevertheless you must be cautious

respecting my declarations. The doctrines which I teach I believe are true, but I may be mistaken; and therefore you must take them only for subjects for consideration, to be confirmed or refuted by an appeal to facts. Medical lectures, like the web of Penelope, should, though they have been woven with great labour, be pulled to pieces again by those who hear them. This is far better than that you should take up passively, without examination, those opinions which may upon inquiry turn out nothing better than mere prejudices.

Nauseants were formerly used in specific fevers, under the idea that a spasm was the cause of them; and this practice was most destructive. At the same time, in specific as in common fever, nausea in the first instance is often beneficial, attended frequently by relaxation and purging, and by a reduction of the pulse.

If you give colchicum with the same intention, you will be still more successful than with ipecacuanha, provided you withdraw it the moment that nausea appears.

TREATMENT OF CYNANCHE TRACHEALIS.

This also is a very dangerous affection, and requires prompt and decisive measures.

1. Blood-letting.

In croup bleeding sometimes gives very great relief, and will often remove the inflammation.

My eldest daughter, when about three years of age, had an extremely violent attack of croup, which became evidently very serious. She was bled to approaching syncope, and for that purpose nine ounces of blood were lost.

This is the largest quantity of blood I ever drew at that period of life: but she was of very full habit, and required the abstraction of so much blood to make her faint; and it stopped the affection completely.

A friend of mine was called to a considerable distance from London, and found a patient with inflammation of the larynx and trachea. Reaction was not established; the heat was not high, and the pulse was flagging. He bled the patient, and the pulse rose; and finding this to be the case, he went on with the abstraction of blood, even to approaching syncope. He drew about eighty ounces of blood, which is the largest quantity I have ever known drawn before syncope.

The largest quantity of blood I have ever drawn before syncope has been fifty-eight or sixty ounces.

One friend of mine, in a case of enteritis, drew eighty ounces of blood before syncope was produced.

It is rarely necessary to abstract forty ounces of blood to produce that effect; generally, in the adult male, between eighteen and thirty ounces, of blood will be sufficient to produce a state approaching to syncope.

Blood-letting to approaching syncope is the only thing which will relieve the patient in many cases of inflammation.

Half measures in inflammation of the tunica conjunctiva of the eye will leave the vessels of that membrane as highly injected as before. Bleed to approaching syncope; and when the patient is in a state of syncope the conjunctiva will be perfectly blanched. The blood has then left the capillary vessels and retired to the venous system; and this is the reason why blood-letting is so powerful for relieving the vessels which are the immediate seat of inflammation. Sometimes the injected state of these vessels is never reproduced; though sometimes it is, as may be seen occasionally in the eye. As the heart's action rises internal inflammation also is sometimes renewed; but in some instances it is never reproduced.

In all these inflammations, if acute, decisive measures must be adopted. If you see the case early never be afraid of blood-letting rapidly. Do the thing decisively, and you will generally find good in it; for you will save the patient's strength more than if you bleed half way. I cannot specify the quantity of blood which you should abstract; it must depend upon the effect produced. The evil which follows blood-letting is nothing to allowing the inflammation to go on. As a general rule, two ounces may be taken from an infant a year old; four ounces from a child two years old; six ounces from a child three years old.

A cupper was once ordered to take six ounces of blood from an infant six months old, which he did; the infant lay for a very long time in a state of syncope, but at last recovered.

If the same effect be produced by the abstraction of a large as of a small quantity of blood, so much the better.

2. Emetics are extremely useful, and should be given directly after blood-letting. The best is a combination of ipecacuanha and tartrate of antimony.

I shall give tables of the doses of emetics and other medicines; and formulæ of emetics, aperients,—indeed all the formulæ which I employ. They are about a dozen forms of a dozen medicines. Every year my prescriptions are more and more simple, as I rarely add to them any new remedy unless it comes strongly authorized. If an individual have a distinct end in view when he prescribes his remedies, his prescriptions must necessarily be simple. I never met a physician for whose

opinion I would give one penny who was not extremely simple in his prescriptions.

In damp situations in Scotland, where croup is endemic, as on the banks of rivers and marshes, the farmers always keep emetics in their houses, and exhibit them early, when the first symptoms of croup are observed, and sometimes with success, even although blood-letting is not premised.

3. Purgative medicines are especially beneficial.

You reduce the force of the inflammation at first by blood-letting; but the daily operation of purgatives is one of the best means of removing it entirely. The best aperients for the purpose are calomel, jalap, and rhubarb, followed up by cold-drawn castor oil or salts and senna or some other combination. When the stools become copious, green, and slimy, like spinach, the relief is generally remarkably great. Calomel hardly ever does relieve inflammation of the air-passages until the spinach-like stools follow its use. Ipecacuanha has the same effect as to the stools.

Some persons say that the good effect of calomel depends upon its producing ptyalism: it does not, however, succeed in croup, unless it acts upon the bowels; it operates merely as an irritant of the mucous membrane of the intestinal canal. Be cautious how you repeat the calomel in delicate subjects if the heat of the surface be reduced, lest you affect the mouth.

It is of great moment to remember that in some delicate subjects calomel actually produces inflammation.

In croup if you waste hour after hour by waiting for ptyalism by small doses of calomel, you will lose the patient's life. Purging should be produced, and will have more influence than this delay.

4. A blister is sometimes beneficial.

I do not think blisters of much use in acute or sub-acute inflammation; but when these are removed and chronic inflammation remains, I think they may be of service.

5. Act on the skin, at the same time as on the bowels; by aperients, and tepid drinks. If these be not effectual try the warm bath; and if that should fail you will almost always succeed with ipecacuanha repeatedly given till some degree of nausea is produced. Always watch the effects of this medicine on the alimentary canal. Sometimes colchicum is very beneficial in the same way.

A regulated temperature is requisite; and in some cases steam may be inhaled.

When it is obvious that there is no chance of further relief from the

ordinary measures, an operation may be had recourse to: and here you must be guided by the considerations mentioned in speaking of the treatment of laryngitis. If the false lining extend into the bronchia the operation will fail.

Sometimes the false membrane is coughed up.

In the last stage it has been proposed to inject the nostrils with milk to excite coughing.

TREATMENT OF BRONCHITIS.

This inflammation requires the greatest caution with respect to evacuations. In the treatment of this affection I differ from some eminent medical friends of mine, and I think my treatment preferable, judging from an appeal to sober experience.

1. Blood-letting should, generally speaking, be avoided.

I have seen a great deal of inflammation of the mucous membrane of the bronchia, and can say, from observation, that copious and repeated blood-letting in that affection is so destructive that I have hardly ever seen a patient recover after it. The office of the membrane modifies the inflammation as I have explained in a former lecture, and the strength of the patient fails in proportion to the extent of the interruption to the healthy change produced by the natural contact of the air while the blood passes through the pulmonary vessels. This is a physiological and pathological fact, which requires to be taken into account in these cases.

If you bleed copiously you stop the expectoration, and the patient sinks and dies in a few hours.

If you attend to the following rules in bronchitis you will never commit any error with respect to blood-letting.

1st. When the pulse is expanded and resisting, or contracted and resisting; when the heat on the surface of the body is uniformly higher than natural; and when the cough is deep, strong, and sweeping; you may bleed moderately with great benefit, in the beginning of the attack.

2d. When the pulse is soft and compressible; when the heat is not high on the surface; and when the cough is not strong and sweeping; if you value the life of your patient you must abstain from blood-letting, which is one of the most dangerous means that can be employed, if my observations be correct.

3d. Confounding this affection with pneumonia is often a fatal error, but bleeding is especially beneficial if bronchitis be combined with pneumonia; and if this occur you may discover the loose diffused cough of bronchitis, and the limited, harsh, grating sound of pneumonia.

In the early part of my practice, when I was taught to bleed in this affection, my success was nothing like what it is now that I never bleed to approaching syncope, but only bleed moderately. It runs a determinate course, and you can only moderate it. These cases generally run a course of two, three, or four weeks.

On many occasions it is a most valuable thing to know the extent of our ignorance as well as what we can do, because it prevents us from attempting what are, in the present state of the science, physical impossibilities, such as crushing bronchitis at once. Many practitioners attempt to subdue inflammation at once by abstraction of blood, drastic purgatives, and blisters; and though these fail to produce the desired effect, they are repeated with as little avail. In fact, they only reduce the patient's strength by attempting to perform impossibilities.

2. Aperients; and—

3. Diaphoretics are most effectual in this form of inflammation.

In adults those measures will relieve this affection, which operate on the bowels, so as to procure three or four stools daily, and keep up a gentle action on the skin; and this is all that is necessary if you diminish the inflammation by emetics in the first instance, with moderate bleeding.

The best diaphoretic is Dr. Sangrado's remedy: tepid, but not hot, drinks, and a warm temperature. Keep the temperature of the apartment ranging from 90° to 96° Fahr.

A bland diet and rest in bed are necessary. When the patient gets up, a blanket should be wrapped round him, so that the surface may not be chilled.

In old persons be very careful of exciting sickness. Nausea may generally be excited with advantage; but I have seen cases of old persons in whom the expectoration has ceased and the pulse sunk under the excitement of vomiting. I have seen squills produce the same effect. Under these circumstances I prescribe æther, camphor julep, and diffusible stimuli, which appear to restore the expectoration, upon which the life of the patient in some cases depends; for if it be free, with a deep strong cough, the patient will generally do well. When more is secreted than is expectorated, an accumulation necessarily occurs, and suffocation is excited by the bronchial passages being plugged up by muco-purulent matter. In some cases bronchitis puts on a congesto-inflammatory character, and frequently you have this disease simultaneously with an affection of the liver; the patient sinks very suddenly with a purple or dusky lip, a pallid cheek, a feeble pulse, and a weak, hurried respiration. I have known many patients die in this way in

twenty-four hours. In these cases you have three objects in view:—to bring a flow of blood to the surface; to excite diaphoresis in the first instance if possible; and to open the bowels, with calomel if the liver be affected.

In bronchitis be extremely cautious in the administration of opium; for it produces a change in the brain, and this by oppressing the lungs aggravates the affection of the bronchia. But if the cough be harassing, short, and ineffectual, you may advantageously give a moderate opiate at night.

Purgatives are beneficial in inflammation of the mucous membrane of the trachea and bronchia, with inflammatory affections of the skin.

If a patient be much burnt, and extensive suppuration occur, open the bowels moderately every day, and you save the strength of the patient by diminishing the irritation on the surface.

The same observations apply to erysipelas. You may give aperients pretty freely in phlegmonoid erysipelas; but in that form of the affection which attacks weak subjects very great care is required: for on examination after death you will very often find the mucous membrane of the bowels, almost always that of the bronchia, and sometimes the brain, inflamed. The best form of medicine in this case is a grain or a grain and a half of calomel with rhubarb, followed by castor oil.

It is much better to give purgatives tepid than to produce a sense of chilliness. The continental surgeons often do this, and it is an excellent practice. I have frequently known a violent pain induced in the stomach and bowels, even passing on to inflammation of those parts, from giving a cold solution of salts in a morning. The phial may be dipped in hot water, or you may add a little hot water to the medicine.

TREATMENT OF PNEUMONIA AND PLEURITIS.

The nominal definition of pneumonia given by Cullen is exceedingly incorrect. It is a mixture of the symptoms of genuine inflammation of the lungs, and of inflammation of the mucous membrane of the air-passages. With respect to—

1. Blood-letting, which is generally the main remedy, you must consider the presence of pain, of dyspnœa, and of fever; while these remain blood-letting is necessary, until at all events the pain and difficulty of breathing are removed.

Both in pneumonia and pleuritis bleeding is best borne when the pulse is full and expanded, and when the heat on the surface is high. And when the pulse is small, cordy, and hard, it will also be well sustained if the heat on the surface be high. When the pulse is oppress-

ed, bleeding is often, nay, generally, very well borne. A small soft pulse bears copious abstraction of blood worst.

Sometimes the pain and difficulty of breathing are removed before syncope approaches, and then you may stop; but if they remain you must proceed, regardless of the quantity, to approaching syncope.

To show that the shock of the operation produces the beneficial effects of the loss of blood, I may mention a case of pleuritis. The patient was so alarmed at the preparation for bleeding, that syncope occurred, and it completely stopped the inflammation of the pleura.

Sometimes the shock of a surgical operation will at once produce syncope; and I have before mentioned the great care necessary in watching the approach of syncope, and guarding against its fatal effects.

A friend of mine saw a patient placed upon a table for the purpose of having a shattered limb amputated. He became pallid, faint, and convulsed, and died under the shock of the first incision, though he appeared before that to be going on very well.

All acute cases of pneumonia and pleuritis require very decisive treatment. No profession requires such unity of opinion and such unity of action as that of medicine. Nothing is more disastrous than the consequences of inflammation attacking the vital organs if treated with indecision; for if it continue undisturbed for some hours, it will often go on notwithstanding the best treatment.

In abstracting blood in pneumonia, when you are perfectly satisfied of the nature of the disease, be prompt,—bleed the patient to approaching syncope; otherwise, instead of benefiting the patient, you will do him harm.

I will relate to you a few cases which will show you how necessary it is to be decided in inflammation of the lungs or pleura.

I was called early one morning to see a gentleman some distance from town, who had acute inflammation of the pleura and lungs: being very slight, I ventured to put down the quantity of blood to be abstracted. The surgeon not being at home, his assistant saw the patient, and told his wife he thought it was not necessary to abstract blood; but as it had been ordered, he would bleed him. He took away two or three ounces of blood, which he desired might be thrown out before I saw the patient, saying that it would become putrid and taint the whole house. At twelve o'clock I returned, and found the patient at the point of death. Here I committed an error. In all cases of this kind, unless you have a surgeon at your elbow, in whom you can implicitly confide, see the operation performed. It is your duty to do so unless you leave it to some individual on whom you can rely. The father-in-law of this

gentleman was a medical man retired from practice; and on consulting together we agreed to bleed the patient till he was relieved if possible. His arm was bound up and we took basin after basin full of blood, till fifty ounces were abstracted, and even then the patient had obtained no relief: had we stopped here in two hours the patient would have died. After abstracting about six ounces more blood syncope came on, from which he recovered convalescent, and had no return of the inflammation. When he recovered from the syncope I gave him eighty or a hundred drops of tincture of opium, which should always be done after copious blood-letting.

In another case a friend of mine had acute inflammation of the brain, and I determined to bleed him in a decisive way. When he had lost only an ounce of blood, from the shock of the operation, syncope came on and as effectually removed the cerebral affection, as if fifty-six ounces had been abstracted, as in the pneumonic inflammation.

There are many cases where a man might pause, as in the middle stage of this kind of inflammation.

A patient had been once bled, after which the inflammation of the pleura and the lungs returned. The tongue was remarkably dry all over. The patient I was told nearly expired from the first bleeding; the symptoms, however, were so urgent that I determined to bleed him decisively, and I told his friends that he might perhaps even die under the operation, but that it afforded the only chance of relieving him; I bled him decisively, and syncope came on suddenly and continued some time, so that I thought he would have died. He recovered afterward with small doses of calomel and opium.

If you act decisively in the first instance you will rarely have to bleed more than the second time. Sometimes thirty ounces are necessary to be drawn in order to produce syncope. Females in general faint before this quantity has been lost: indeed, so do most adults; but in some individuals you have to take a still larger quantity.

A patient in the Fever Hospital was the subject of acute inflammation in the pleura and lungs, and leeches had been applied before I saw him. I ordered him to be bled to approaching syncope, which occurred from the loss of twenty ounces of blood. This relieved him very much, and I gave him three grains of opium and one grain of calomel; the symptoms returning I ordered him to bleed again, and syncope occurred from the loss of eight ounces of blood. I then again gave him calomel and opium every six hours. This I believe prevented the deposition of coagulable lymph.

When the patient is uneasy, the heat unusually high, and the pulse preternaturally quick, you may repeat the bleeding.

There are four exceptions to the application of blood-letting in pleuritis and pneumonia.

The *first* occurs in pneumonia in very old flabby persons. You will find in these cases that the pulse is remarkably weak, that the breathing is short and feeble, that the cough is very feeble, and that there is great general muscular prostration. In all these cases it is better to avoid copious blood-letting: small and repeated bleedings are better. Towards the close we must be very cautious of bleeding, especially in those who have been dram-drinkers.

I saw an old nurse once bled in this affection, and she died rapidly after the second evacuation of blood.

I saw an old man who sunk with great rapidity after blood-letting had been carried to approaching syncope.

I saw an old lady in whom moderate blood-letting once or twice removed an attack of pneumonia; and lately I saw her again with another attack, from which she was relieved by mild local blood-letting, with rest, a bland diet, and a blister.

I saw a lady sometime since who was the subject of organic disease of the heart, and was suddenly attacked with congestion in the lungs. In that state the family surgeon bled her copiously, and as the pulse rose he bled her again. After that she had inflammation of the lungs, and was again bled; but she never recovered her strength, and I think never will.

Skill in the application of blood-letting may be acquired to a great extent by seeing its effects at the bed-side.

The *second* exception is in the onset, when the attack arises from a depressant, and when the excitement is imperfectly developed: when the pulse is oppressed, fluttering, and feeble; when the skin is cool, or not warmer than natural; and when the respiration is weak. In these cases it is far better either to use the hot air bath; or a hot water bath at the temperature of 100° Fahr.; or to give two grains of opium with three, four, or five grains of calomel, followed by hot drinks; and then you can bleed the patient with very great benefit when the excitement is developed.

The *third* exception arises in pleuritis, occurring in confirmed phthisis pulmonalis; in the progress of which disease it frequently happens that the patient is annoyed with a stitch, with difficulty of breathing, a hot skin, and a quick pulse. In these cases the patient is generally worn down towards exhaustion by the previous progress of

pulmonary consumption. You must take into account the previous history of the case, as well as the present condition of the patient. Small bleedings under these circumstances generally answer best. Sometimes the abstraction of four ounces of blood from the arm, or by cupping, or by leeching to the chest, followed and assisted by blisters and opiates, will remove the symptoms.

When you apply leeches to the chest you should avoid exposure of the chest to a low temperature. I am quite confident that a great many children are lost under the careless application of leeches to the chest, from exposure of the chest in cold weather. From the free communication of the vessels on the surface with those within the chest, when cold is applied to the surface the blood recoils and retires to the interior of the chest.

The *fourth* exception is when inflammation of the substance of the lungs or of the pleura is complicated with the typhoid kind of fever; and then you must be extremely cautious of bleeding. The tongue is glazed and brown ; the respiration is weak, even to panting, if you ask the patient many questions ; the pulse is soft and compressible ; the animal heat is subdued on the surface ; the position of the body is sunk; and the voice is feeble. If you bleed the patient in this state copiously he will sink with rapidity. There is in these cases a special bronchitis.

I have sometimes bled in these cases to ten ounces.

I recollect I saw a patient who was twice bled to this amount with benefit.

I saw another individual who was bled copiously and died.

When inflammation takes place in parenchymatous or serous structures, with a parched tongue, the case is very dangerous.

I never saw a patient recover from copious blood-letting in typhoid pneumonia ; and this observation applies to other inflammations complicated with typhoid symptoms.

Generally speaking, however, copious blood-letting carried to approaching syncope or to the relief of the symptoms, followed by—

2. A full dose of opium will prevent hemorrhagic reaction, or the return of excitement; will prevent the return of pain ; will act on the skin, rendering it moist ; and will produce tranquil sleep.

If the symptoms return the bleeding must be repeated to syncope a second or even a third time, and followed by a smaller dose of opium each time than the last; but do not in pneumouia and pleuritis, if the inflammation return, repeat both the bleeding and the opium in the same decisive way as in gastritis, enteritis, and peritonitis, lest you oppress the brain.

When decisive blood-letting does not afford relief it is a very unfavourable sign.

The Italians, assuming *à priori* that opium is a stimulant, say that, therefore, its use is inconsistent with blood-letting. But there is now an independent spirit among men of right feeling, which prevents their taking for granted any man's assertions without investigating facts for themselves ; for errors, passively taken up at first, become at length so intimately blended with truth, that it is difficult to disunite them. All opinions which upon trial are found to be incorrect, should not be the more respected because they are supported by great authorities, or the united prejudices of a whole nation. Those speculations, like this of the Italians, are but traced, as it were, on sand, and Time, like an advancing wave, will speedily wash them away.

3. As long as the fever continues, mild aperient medicines are useful, conjoined with five grains of the powdered bulb of colchicum three or four times in the twenty-four hours; so as to keep the bowels open three or four times in that time. But recollect not to purge the patient too copiously, lest you should chill the surface; for in that way the inflammation is frequently aggravated. In all inflammations of the chest you must be cautious not to check the perspiration; but the skin should be kept warm and moist.

4. Regulate the temperature of the apartment, lest, when the patient gets up, the surface should be chilled. He should, however, use a bed-pan in preference to getting up. After copious blood-letting if the patient will get up, there should be some person present to watch the effects of that posture; for many patients who feel very strong while they are recumbent, upon being raised into the erect posture become giddy, and then blind, and die rapidly.

Never give the patient in these cases cold medicines or cold drinks.

The clothes should be very light: the patient may be put between two thin blankets when he is perspiring freely.

5. After this, ten drops of antimonial wine or ipecacuanha wine, with one drop of laudanum, a dram of solution of acetate of ammonia, and a little water, may be given every six hours.

6. Blisters are useful after bleeding, but before it they do mischief by exciting the heart's action.

7. The French, and the Italians, who imitate the French, are very fond of sedatives, as digitalis, antimony, prussic acid, &c.

Digitalis I have already said is an uncertain remedy, and requires to be given largely to produce any effect, and sometimes even then it is of no service.

I have seen digitalis given in these cases, and have not been satisfied with the results.

With regard to the statement of the continental authors, that large doses of antimony are very useful in many cases of inflammatory complaints, the testimony is so complicated that I hardly know what to say to it. I can derive but little information from it; but, upon the whole, the practice seems to have been unsuccessful.

I believe you may produce all the good effects of antimony, and may also avoid its ill consequences, by the use of ipecacuanha. Antimony sinks the powers of life, and often produces inflammation of the mucous membrane of the intestines; and I have reason to believe that the prussic acid produces the same effects.

8. In these cases attention to the diet is of great consequence.

In the acute form a water diet is best. I have often kept patients for forty-eight hours together by water drinks in febrile diseases. In these cases great mischief is generally done by nurses, who give the patient what they consider nourishing food.

A little thin gruel, thin arrow-root, or barley-water, is all that is required in the sub-acute form of the affection.

9. Calomel and opium, with a small quantity occasionally of ipecacuanha, will relieve the slight traces of inflammation which remain after blood-letting.

Comparing my present with my former practice, the greatest modifications I have made are these:—

1st. In inflammation of the serous membranes, or parenchymata, I bleed more decidedly than ever I did: but—

2d. In inflammation of the mucous structures, I draw more blood by leeches and less by the lancet.

TREATMENT OF PERICARDITIS.

I have already noticed that inflammation about the pericardium is very often the consequence of a rheumatic affection, occurring with rheumatic inflammation of some external part.

1. When acute inflammation of the pericardium occurs, it requires very decisive treatment to save the patient's life.

1st. Copious bleeding is required.

I drew upwards of one hundred ounces of blood in one case before the inflammation was stopped.

I have seen one blood-letting, followed by opium, answer the purpose; sometimes two, and sometimes three, blood-lettings have been required.

Occasionally a case occurs in which you would be deterred altogether from bleeding; for instance, in extremely exhausted persons.

I saw a patient in the Fever Hospital, who was convalescent from typhus fever. Before he was brought to the Fever Hospital he had worn a flannel waistcoat, which the nurse removed. He was exposed to cold air, and pericarditis occurred. He was so prostrate that I was afraid to bleed him; I, therefore, applied a blister and gave him colchicum, and he recovered.

The rule in these cases is, as in other inflammations, to remove the pain or fever. By fever here I mean that state in which the pulse is quicker than natural, and at the same time the skin is hotter than natural; for a quick pulse alone does not constitute fever.

2d. The blood-letting should be followed by a full dose of opium as soon as the patient has recovered from the syncope.

When a large quantity of blood has been drawn, hemorrhagic excitement is certain to follow, and in two or three hours the pulse is quicker than before the blood-letting; and the inflammation may return.

I saw a case in which thirty ounces of blood drawn produced approaching syncope; this was followed up by eighty drops of laudanum, which prevented the return of inflammation of the pericardium.

3d. Diaphoresis is advantageous in all inflammations of the lungs, pleura, and pericardium; if it be not procured by a high temperature, which would aggravate the inflammation.

2. When the inflammation is sub-acute,—

1st. Colchicum, to sicken the patient, will produce relief, if—

2d. A blister be applied over the region of the heart.

Chronic inflammation frequently supervenes on acute or sub-acute inflammation of the pericardium; and if you overlook it, the forfeit of the patient's life is generally the consequence. "The snake is scotched, but not killed;" and until the pain is removed the patient is not safe.

LECTURE XXVIII.

COMMON INFLAMMATORY FEVER.

TREATMENT OF INFLAMMATION OF THE STOMACH, BOWELS, PERITONEUM, LIVER, KIDNEYS, AND URINARY BLADDER.

TREATMENT OF MUCO-GASTRITIS, AND MUCO-ENTERITIS OF THE SMALL INTESTINES.

1. Generally speaking, blood-letting is required in a decided way, especially if the fever be ardent.

As long as the pain, the heat over the belly, the frequency of the pulse, and the redness of the tongue, continue, bleeding by leeches is necessary.

The only exception to this occurs in cases where inflammation is suddenly and extensively set up from the influence of poisons in one or other, or both, of these seats, and when the system at the same time labours under a general shock.

Sometimes the acute is converted into sub-acute inflammation; and in these cases one moderate blood-letting from the arm in the first instance, and leeching over the abdomen till the pain is removed, will answer better than copious general blood-letting. No patient died of this affection in the Fever Hospital who was seen early: patients only died who were brought in after ulceration had taken place. This success arose from daily leeching till the pain was removed, the tongue became less red at the tip, the heat was diminished, and the fever or frequency of the pulse was subdued.

Pain is sometimes, nay, frequently, absent in sub-acute muco-enteritis of the small intestines. Then if the heat over the belly be pungent, the tongue red at the tip, and the pulse frequent, abstract blood by leeches to the epigastrium or abdomen. I do not limit the number of leeches; but twelve will generally be sufficient. They may be applied twice the first day, and afterwards according to circumstances until the inflammation is removed.

This state very often goes on two or three weeks before ulceration is produced; therefore you have time to prevent that occurrence.

Many slight cases are spontaneously cured by means of an increased secretion.

2. Harsh purgatives aggravate these forms of inflammation excessively.

It frequently happens that calomel and colocynth are given, and followed up by a grain of tartarized antimony, and an ounce and a half of Epsom salts in six ounces of infusion of senna; and the consequence is the aggravation of the inflammation.

I saw a patient in the Borough who brought on hemorrhage from the bowels by purging, and at length died of it.

Upon the whole the best aperient is a grain and a half of calomel with four grains of powdered rhubarb, followed up by about two drachms of cold-drawn castor oil. This is what I generally prescribe. Or you may use the extracts of rhubarb or jalap, made into soft pills, combined with calomel. If the calomel be given in the morning it is less likely to induce ptyalism. A very good saline medicine is a drachm each of sulphate and carbonate of potass taken occasionally with a spoonful of lemon juice, in a state of effervescence. It is, however, better to unload the bowels by a pint, or a pint and half, injection. All instruments for injection are imperfect: if properly used, nothing answers so well as a common pipe and bladder.

Examine the stools daily, for they are usually morbid, oleaginous, and vitiated as far as the bile is concerned. In muco-gastritis the liver is affected nineteen times out of twenty, and in muco-enteritis of the small intestines the liver is generally implicated in the affection.

Opium is useful in cases which arise from poisons, as I shall afterwards show. In sub-acute muco-gastritis and muco-enteritis it seems to have very little, and I do not know that it has any influence when the small intestines alone are inflamed.

The diet should consist of thin arrow root, and the drink of water.

In these affections I would say my success has been greatest since I have purged less and leeched more than I once did. I believe the French commit a great error from neglecting the influence which purgatives produce in these cases. One friend of mine uses twice the number of leeches I do; but my success is greater than his on account of the mild aperients which I administer.

This combination of measures is very efficacious in the removal of this inflammation. The aperients should not provoke very mucous or bloody stools; if they do, and the tongue become redder, you should leave them off. Nothing is more dangerous than aperient medicines if there be blood in the stools, especially if there be copious hemorrhage

from the bowels. If once a portion of blood be lost you must then wholly omit all aperients, at least for three or four days. Such hemorrhage to the amount of a pint or more is by no means uncommon in the advanced stage of muco-enteritis: so that the patient suddenly loses perhaps one or two quarts of blood; and then, provided the tongue be moist all over and not covered with a sticky varnish, opium, absolute rest, and an exceedingly bland diet, answer best, and are all that is necessary; and the patient will almost invariably do well. A small dose of opium may be exhibited occasionally: if the patient be remarkably faint and weak a full dose of opium may be required. Astringents here are of no use. No fruits should be allowed. This hemorrhage is very apt to be followed by excessive excitement. If you give opium it has a very good effect: the pulse becomes softer and slower, and the patient becomes tranquil.

I saw a medical friend who lost two quarts of blood, and was just about to take infusion of roses and sulphate of magnesia, which I believe would have destroyed him.

THE TREATMENT OF THE EFFECTS OF POISONS

may be advantageously considered in this place, though the effects of these peculiar agents differ from those of common occasions.

1. An over-dose of *opium* if given in a liquid form may destroy life very rapidly. It operates much more slowly in the solid form, because it is not so rapidly absorbed.

The first thing is to excite vomiting, by passing your finger down the patient's throat; or by tickling the fauces with a feather, which should never be neglected. A dose of oil or mustard and water may produce the desired effect; but do not lose a moment. If the pulse be sunk, the skin cool, and the respiration oppressed, I am always afraid of abstracting blood, lest the patient should sink rapidly.

If opium be taken in a solid form it produces a very red eye, excessive confusion in the head, a skin extremely hot, a pulse full and bounding, and all the symptoms of intense inflammation of the brain. These symptoms should be treated with reference to the condition, when any poison has been taken.

Sometimes a patient is neither oppressed nor excited to a very great extent, but is in an intermediate state; and the pulse is not oppressed but labouring. Here bleeding is very beneficial with cold applications to the head, and sometimes even the affusion of cold water will be desirable.

About three years ago I saw a clergyman who swallowed a large

quantity of opium by mistake. He was saved by sulphate of copper and tartrate of antimony.

When opium has been taken, emetics require to be very large: for instance, a scruple of emetic tartar and twelve grains of sulphate of copper in divided doses. Their operation is assisted by bleeding, which may be resorted to if the pulse be expanded or labouring. In all these cases the patient should be kept awake by shaking, &c.

2. When the peculiar agent is a copious *spirituous potation*, if you can by an emetic dislodge the spirit the patient will generally recover. Or the spirit may be removed by Juke's instrument. Such an instrument has long been in use, for the benefit of sailors, &c. in the Liverpool Infirmary.

It is known from the experiments of Magendie that spirit and water taken into the stomach will remain some time, but that spirit alone will be immediately absorbed.

3. *Digitalis* seems to destroy life by a general shock to the system. When it has been taken in an over-dose the best remedy is a strong infusion of a bitter with subcarbonate of ammonia, or a little brandy with opium.

4. *Colchicum* produces universal collapse and extensive inflammation of the stomach and bowels. The tongue is generally covered with a grey fur, somewhat like lichen; and the patient is sick and purged incessantly. In this case there is clearly very great danger. Support the patient in the first instance by opium, with bland warm drinks.

Sometimes colchicum produces universal languor and lassitude without sickness, or purging, which are its common effects. In these cases it should be left off.

5. *Antimony* excites irritation of the whole mucous membrane of the intestines.

6. *Ipecacuanha*, when it destroys life, inflames the bowels.

7. *Prussic acid* operates remarkably on the brain and mucous membranes.

A young man took for experiment, twenty drops, and walked about for an hour, and then suddenly became excessively faint, sick, and giddy. A friend very properly gave him a large quantity of warm water, which produced plentiful vomiting. When I was called to him I found him labouring under a distinct attack of inflammation of the brain and of the mucous membrane of the stomach. He had a remarkably bright eye; a pulse more expanded than natural; a skin hotter than natural; a tongue somewhat red, exhibiting the appearances indicative of inflam-

mation of the mucous membrane of the stomach; with nausea and retching; and ever and anon he had an involuntary shuddering expressive of horror. I treated him according to the symptoms; bled him copiously, and afterwards gave him a moderate opiate, and he did remarkably well.

According to the experiments of Mr. Murray, a respectable chemist, ammonia is almost a specific for prussic acid. But do not hunt for specifics and neglect the symptoms which are present.

8. I saw a person who had swallowed *pearl-ash*, which produced extensive inflammation of the stomach and intestines, which was relieved by bleeding and opium.

9. Mr. P. had a case of poisoning by *arsenic*, which produced inflammation of the stomach, of the brain, and the bowels—especially of the rectum. He removed the inflammation, and the patient did well.

When arsenic has been taken it will be an object to remove the poison as early as possible by an emetic.

Dr. Thomson got great credit for detecting arsenic in the coats of the stomach when they were digested in alcohol.

10. *Oxalic acid, sulphuric acid, nitric acid*, and *oxymuriate of mercury*, taken in combination with opium, have their effects modified by it. I may state two cases in illustration of this point in reference to sublimate.

A person, for the purpose of self-destruction, took some oxymuriate of mercury; and the more rapidly and effectually to accomplish his intention, he immediately afterwards swallowed a large dose of opium: no bad effect was produced.

A friend of mine put his knowledge of this fact to a useful purpose in a case where oxymuriate of mercury had been swallowed by mistake. He gave opium very largely, and the patient recovered.

These cases are at least sufficient to call our attention to the use of opium under similar circumstances.

In cases of poisoning from over-doses of colchicum and digitalis I have seen opium save the patient; and though I am not in the habit of recommending experiments upon living animals, except for the promotion of objects of great public value, yet when experiments made on the lower animals lead to important results which can be turned to great practical account to society as on this subject, I think they should be undertaken.

I have read in a paper (which though not very good authority, yet in conjunction with other cases, may at least lead our attention to an

examination of the truth of its statements) a case of poisoning by oxalic acid, in which its ill effects were prevented or destroyed by opium.

I was mentioning one of the cases which I have just stated to you to a physician, who told me that it reminded him of a case which he once saw, in which the patient for the purpose of destroying himself mixed opium with aqua fortis. He was surprised that the symptoms were so mild: the inflammation was slight, and the patient recovered.

You will recollect that when any poison produces what I have called a congesto-inflammatory form of disorder, the patient cannot bear blood-letting; but you may use the hot air bath to bring a flow of blood to the surface, and give in the first instance a full dose of opium, and afterwards mild laxatives.

TREATMENT OF INFANTILE REMITTENT FEVER.

The great object is to remove the irritation of the stomach or intestines at its commencement; by doing which you will in a great many instances save the patient's life, which is almost invariably put in great danger if you allow it to go on. No affection is more controllable than inflammation of the mucous membrane of the intestines, provided you see the case early; no affection is so unmanageable if suffered to go on for some time before a medical man is consulted, especially if ulceration have occurred.

When the pulse is quicker and the skin hotter than natural, but still there is no inflammation, a strictly spare diet, rest in bed, and purgative medicines, will remove it in a few days.

In order to the removal of the inflammation, which I have said is generally sub-acute, nothing answers so well, even in children, as leeches (and in robust children general bleeding may be used,) followed up by the mildest aperients, by a bland diet, by an occasional mild alterative, by perfect quiet, and by a regulated temperature.

The application of leeches, five or six or more, according to the age of the child, should be repeated till all the pain is removed.

Recollect one thing with regard to leeching, and that is, you should never leave a very young child after the application of leeches till the bleeding from the orifices is entirely stanched.

I saw a child which I am quite sure would have died in a short time if I had not happened to make a visit at the time. The blood was oozing from punctures made by leeches, and the child was pale, and gasping, and had a sunk pulse; I gave it a little wine, and stopped the bleeding, and it recovered; but had the oozing gone on a quarter of an hour longer the child's life would have been destroyed.

After the leeches give the child three grains of calomel and eight grains of rhubarb, followed by a table-spoonful of castor oil. Calomel has a very beneficial effect in these cases by stimulating the liver, while the rhubarb and cold-drawn castor oil act upon the bowels. In very delicate children it will, perhaps, be requisite to reduce the dose I have mentioned to a grain or a grain and a half of calomel with six grains of rhubarb at night, followed up by a drachm, or at most two drachms, of castor oil every morning. From these medicines you will almost always have a great quantity of offensive matter discharged from the bowels.

Put the child into a bath of 96° or 98° Fahr. for a quarter of an hour or twenty minutes; and while it is in the bath soap the skin, and having washed off the soap, let the surface be dried thoroughly. Soaping the skin will have a very beneficial effect on the mucous membrane of the intestines.

Rest in bed, and attention to the diet and drink, are very important. Always cast your eye around the sick room, and if you find fruits lying about, prohibit them most strictly; for the pulps of oranges, and the skins and seeds of other fruits, are frequently fatal in these cases.

I saw a boy who was vomiting at one visit. The nurse said she adhered to my rules; but I found a paper with sweet sponge biscuits, of which I ascertained he had taken at least a dozen, which brought on a fresh attack of inflammation. And this is very often the consequence of the inattention of nurses to these points. Lay down a strict rule, and never deviate from it.

The calomel should be persevered in as long as the tongue continues foul and the stools continue offensive. The removal of these symptoms being accomplished, and especially if the skin have fallen to its natural temperature, omit the calomel; for if you continue it after the skin has become cool, it will most likely produce ptyalism, which in children it is desirable to avoid.

If the child becomes restless towards night place it in a tub, and pour over it two or three gallons of tepid water; and if the head be not affected, give it a small quantity of syrupus papaveris. An opiate given at night, in the form of Dover's powder, or extract of henbane, is often very beneficial if the head be not affected.

If you suspect ulceration, enjoin a strictly regulated diet, consisting of bland thin arrowroot, &c., and give a grain of calomel with three or four grains of rhubarb in the day.

When there are the symptoms from which you may infer that there is ulceration, the child very seldom recovers; but sometimes it does.

If the stools be sour you may give tincture of henbane and a few grains of carbonate of potass in almond emulsion, with advantage.

If the stools become mere mucus omit aperients and trust to leeches.

If hemorrhage occur discontinue all aperients and give opium.

Beware of doing too much. There are now two great errors in the practice of physic with respect to inflammation. There is one set of practitioners who, whenever they find inflammation, bleed, purge, and give antimonials too much. There are other practitioners who give wine and bark in inflammation, in the face of all pathology and of every principle. In both these cases the fatality is very great. No inflammation requires more delicate management than inflammation of the mucous membrane of the intestinal canal.

A placebo is necessary in the present state of the public knowledge. If I give nothing but calomel and rhubarb at night and castor oil in the morning, and apply leeches, the patient, and his friends too, would lose all confidence in me. The best placebo is coloured water, or any thing simple.

Saline mixtures are very important, because they sometimes do irreparable mischief by irritating an inflamed mucous surface of the bowels. If the stools become more slimy and more copious, you may be sure you are doing harm by your medicines. I saw a lady who was dying of the effects of a saline mixture which was exhibited every four hours. It produced by its irritation great effect upon the mucous membrane of the intestines, which subsided on withdrawing the saline mixture. I have seen the same thing occur from antimonials; and it really is a very important thing for a medical practitioner to do no harm. Cowper has ridiculed medical men for "doing nothing with a deal of skill;" but this very often is the great art of physic. I know nothing in the world which requires a greater combination of intellectual and moral excellencies than to make a medical man. It requires in the first place an excellent elementary education; in the second place it requires experience—not such experience as a dog gets in a wheel by turning a spit to roast a leg of mutton, nor such experience as a horse gets by following the same daily round in a mill (for these animals really have a great deal of experience;) but experience which is derived from a careful observation of the phenomena of diseases, and from a minute attention to the effects of remedies under various circumstances during life: connecting these phenomena and effects with the morbid condition or conditions as displayed by examination after death. He should be, too, a man of the strictest integrity, and the most upright conscientiousness. In short, it is almost impossible to meet with an accomplished physi-

cian. And since, then, it is rare to find any man who is in possession of all the requisites to make an accomplished physician, all we can do,—and that we ought to do,—is to exert our abilities to the utmost; and a great deal that appears difficult may in that way be accomplished.

TREATMENT OF MUCO-ENTERITIS OF THE LARGE INTESTINES.

When inflammation occurs in the upper part of the mucous membrane of the large intestines it assumes the character of diarrhœa, with fever; when in the middle part, that of dysentery.

In these cases, if the inflammation be acute, general blood-letting is demanded, proportioned to the duration of the attack; and when you have converted it into the sub-acute form, local blood-letting by leeches will answer the purpose, and must be continued, in the one case, while diarrhœa continues; in dysentery, as long as the tormina, tenesmus, and slimy bloody stools, continue.

But it will be necessary to attend to the following circumstances in reference to the—

TREATMENT OF DYSENTERY.

If you see any case of dysentery at the onset in which there are a cold skin, pain in the lower part of the body, and tenesmus, the best thing to be done is to immerse the patient in a bath at the temperature of 100° Fahr. After keeping him there some time, dry the surface of the body, lay him between two blankets, and immediately give him two or three grains of opium, and from three to five grains of calomel, allowing him bland, tepid drinks, and these will very often arrest the disease, by exciting a flow of blood to the surface and producing perspiration.

Opium, if given early, is extremely beneficial: in the onset, after a hot bath, three grains of opium and one grain of ipecacuanha will sometimes stop its progress at once. In cases where the stomach is very irritable it may be administered in proportionate doses in the form of enema, or suppository, or by friction on the skin.

If you see a patient with dysentery after its commencement be guided entirely by the symptoms. If the patient have symptoms of inflammation, that inflammation will be acute or sub-acute. If you be called early your object is to arrest the inflammation, whether acute or sub-acute, at once; or at any rate so far to subdue it that it will readily yield to mild means. Bleed the patient to approaching syncope; and if the tongue be moist give him not less than three grains of opium,

with calomel. And these means will often be followed by great benefit to the patient.

Most of the cases I have seen have been mild. In many instances this complaint becomes very embarrassing; for, unless it be checked in the onset, it seems to have a determinate duration, and goes on sometimes to ulceration. In order to prevent this the American practitioners affect the mouth by calomel; and generally this answers, but sometimes it fails.

If it proceed from malaria, or if it be complicated with an affection of the liver, use blood-letting to approaching syncope, and a bath of 100°, as before, and then put the system under the influence of calomel. Calomel may be regarded almost as a specific for diseases arising from peculiar occasions. This is the reason why practitioners in hot countries speak so much more highly of it than medical men in this country. The bowels in all cases should be opened by mild means; and for this purpose nothing operates so well as cold-drawn castor oil.

The treatment I have advised in dysentery arising from common occasions will generally arrest the disease at its onset, or lessen its force so that it can be subdued by mild means, as local blood-letting. If the stools be morbid put the system under the influence of calomel. When the liver is not affected there is no occasion for more than common aperient medicines, followed up by cold-drawn castor oil.

One of the first indications of recovery is that the patient passes stools like meconium; and then the mildest aperients, such as castor oil, are the best.

I am now disposed to give calomel in small doses; and I think I formerly committed an error in giving too large doses of it. This is the only practice I have changed since I came to London, except that I give large doses of opium in common inflammatory fever.

In these cases of dysentery I would not give more than three grains of calomel repeated every six hours, or two grains of calomel repeated every four hours. Formerly I should have given ten grains, or even a scruple for a dose. This is to be continued until the mouth is affected.

The calomel sometimes produces a state of profound relaxation, which is more oppressive and intolerable to the patient than the pain itself; and its further employment must then be abstained from.

When you want to affect the system rapidly with mercury always premise blood-letting. If the heat on the surface be high you may pour in dose after dose of calomel without producing the effect you have

in view ; but it is astonishing how small a quantity of calomel will affect the system if blood-letting have preceded its exhibition.

You will do no good in dysentery unless you attend to the diet. Keep the patient cool, let him rest in bed, and let him eat nothing. A small cup-full of thin arrow root, gruel, or barley water, with a sprinkling of lemon-juice, three times a day, is quite sufficient. If he have any thing else let it be water.

No college has produced such an admirable work as the Dublin Hospital. In the Dublin Hospital Reports there is a good paper upon dysentery by a very respectable physician ; but his treatment in one particular, I think, was very injudicious. In the case to which I allude pounds of food were given in a day, which I think was a great error, sufficient to account for the great fatality of the disease ; and it is one which I myself formerly committed. The diet should be as spare as possible. Patients often crave all sorts of things. When the desire is urgent more firmness is required on the part of the practitioner.

One of the most common causes of the fatality of inflammatory diseases is the inattention of medical men to the diet of their patients.

When dysentery becomes chronic ; when the patient becomes weak ; when the disease continues week after week ; when the belly is tense, with the integuments drawn inwards ; when the pulse is quick and small, and the eyes are drawn inward ; when there is a more offensive, loathsome, sickly smell than in the first stage ; and when, therefore, you have reason to believe that ulceration has taken place, there is very little hope ; and, therefore, all harsh treatment should be abandoned, and calomel given in very small doses,—as half a grain of calomel or two grains of blue pill every other night, at bed time, to keep the liver in action ; and one or two drachms of castor oil for a dose will be sufficient. Leeches may be applied to the abdomen occasionally if there be pain. The diet should be bland and farinaceous : the best is a milk diet, which sustains the strength without much increasing the heart's action. Rest in bed should be directed, and the patient should be placed in a fresh atmosphere, and use a tepid bath. The surface should be well soaped, and afterwards carefully dried. After it has advanced to ulceration opium is the only palliative you can employ, and the only thing you can then do is to mitigate the pain. In that state patients will call opium a heavenly, a divine remedy ; which gives them not only a respite from pain, but sends them into a world of pleasures, and creates in them illusions which they very unwillingly exchange for the bitter realities of life, or for the waking hours of pain.

In some cases where there have been signs of ulceration I have seen

the patients do well under the following remedies: ten grains of sulphate of magnesia, with five, six, or eight drops of tincture of opium, or of tincture of henbane, every four or six hours. It will save some patients when every other means fail. This plan was used by Dr. Pemberton with great success in cases of inflammation of the mucous membrane of the small and large intestines. The doses I have mentioned are proper for adults, and must be lessened for children.

In some cases of this kind I have seen great benefit derived from sulphureous waters, as those of Harrogate. They move the bowels gently, and act on the skin; they stimulate the liver, and have all the good without the unpleasant effects of mercury. A friend of mine, Mr. George Vaux, of Ipswich, has tried a remedy for sixteen years in about two hundred cases; and the result has been so successful and so remarkably uniform, that I feel it my duty to mention the treatment here. This gentleman gives in dysentery, or inflammation of the mucous membrane about the colon, seven grains of nux vomica thrice daily. It neither purges nor constipates, but removes the inflammation, and healthy evacuations follow. Mr. Vaux, who resides in London, bears similar testimony to the value of this remedy, and I strongly recommend it to your notice. I shall certainly try it in the next case I meet with. It seems to operate as a sort of specific. It was first mentioned by Hagstrem, and has been very much neglected since his time.

In congesto-inflammatory attacks of dysentery the following treatment will be proper. A hot bath should be used in the first instance, and in the next place leeches should be applied to the abdomen, and three grains of calomel combined with a grain of opium given every six hours.

It sometimes happens in dysentery that the tongue becomes brown and parched; and when this occurs you will find no good from opium, but you may give a grain of calomel twice a day with a little rhubarb and cold-drawn castor oil. If the patient pass more blood by stool under this treatment, the calomel must be abandoned, and then the best remedy is lemon-juice; and chlorine, I believe, has a very good effect.

When dysentery goes on, under any form, to produce disorganization, the case generally is hopeless. If you be called early, or in the middle stage, you may generally prevent this effect. It is humiliating to consider how little efficacy occurs from any treatment at a later period.

Dysentery has been very common in London in the Penitentiary,

which is built below the bed of the river, and is surrounded by a marsh.

It is remarkable that no disease of consequence prevailed there while the inhabitants were allowed a full diet, but within six months after a spare diet was made use of, half the inmates were the subjects of disorders. And those disorders put on the character of dysentery, which was treated very successfully by the physicians with calomel and opium, which, in fact, is the common mode of treating it.

TREATMENT OF DIARRHŒA.

If it depend upon an over-loaded state of the colon, no advantage will be derived from the remedies, usually prescribed for diarrhœa,—chalk mixture, aromatic confection, catechu, opium, &c., but they may do harm. If it arise from congestion of the liver they will do no good; and if from offending ingesta they will be injurious. If any man impartially trace the consequences of such treatment, he will find that they are often fatal.

1. If diarrhœa arise, as it most commonly does, from scybala in the colon, a dose of calomel, rhubarb, and jalap, followed by castor oil, is the best remedy; but it will often require to be repeated. If the skin be cool, however, do not repeat the calomel, but give the rhubarb and castor oil without it, or add a little compound decoction of aloes.

2. If it arise from offending ingesta, such as fruit, pastry, pickled pork, &c., and flatulence and acid eructations occur, some persons stop it immediately by a glass of brandy. But before this should be had recourse to you should be sure that there is no inflammation. Dislodge the offending substance by the administration of cold-drawn castor oil, followed by opium.

Sometimes it arises from acidity in the stomach or bowels; and then castor oil first, and a small quantity of chalk mixture with a little opium, answers the best purpose. These are the only cases in which cretaceous mixtures should be given.

3. When diarrhœa arises from a chill of the surface, two or three grains of opium should be given with four grains of calomel; and a bath of the temperature of 100° Fahr. should be used.

4. When it arises from a copious secretion and sudden gush of bile, nothing more will be necessary than bland diluents, the use of a tepid bath, rest, and an occasional opiate.

5. When diarrhœa arises from inflammation, which it very often does, especially of the upper part of the colon, it will require the treatment which is applicable to acute and sub-acute inflammation, accord-

ing to its seat, duration, &c., namely, local bleeding, with small doses of calomel and rhubarb, followed by castor oil. Sometimes a diarrhœa comes on suddenly from mercury, and requires opium in very large doses, and afterwards castor oil.

I shall advert to the treatment of colliquative diarrhœa when I speak of consumption.

In diarrhœa arising from the effects of the tainted air of a dissecting room, the best thing is to take a dose of castor oil, and afterwards calomel and opium, and to absent yourself from the dissecting room for a time.

Opium and the hot bath are almost specifics for the watery gripes in very young children, with a little medicine to counteract the wind in the intestines.

The principles I have mentioned with regard to inflammation of the mucous membrane of the intestinal canal you must apply to the—

TREATMENT OF CHOLERA MORBUS,

bearing in mind that the liver is affected, and also the skin.

1. The congestive form of cholera is nothing more than a modification of congestive fever. In all these cases the powers of life are so exceedingly sunk that you cannot bleed in the first instance, and the indication is to bring a flow of blood to the surface of the body. This is to be attempted by the administration of stimulants, &c. The time in extreme cases is, however, so very brief that many patients may die before the proper remedies can be had recourse to. The hot air bath should be applied thirty or forty minutes, and that almost always saves the patient. When this cannot easily be procured, the next best application is the hot vapour bath. When neither of these is at hand, the patient should be laid in hot blankets before a fire, and bottles of hot water should be applied to his feet and epigastrium. The patient has an instinctive desire for cold drink; but the gratification of this should never be indulged. The drink must be tepid, and very sparing in quantity, and should consist of very thin gruel. Two to three grains of opium, with five grains of calomel, should be given in the form of small pills, and very little fluid should be taken after them: in this way they will generally be retained. Whenever the stomach is irritable medicine should be given in form of as small pills as possible, and the drinks in this case should always be hot. The doses may in some instances be greater or less, according to circumstances.

Afterwards small doses of calomel and opium, and small quantities of brandy, may be given till perspiration takes place. In this form of

cholera there is deficiency of bile, and it is not until excitement takes place that a flow of it occurs.

When the hot stage has been produced there is either simple or inflammatory fever, which must be treated accordingly.

2. When the case merely puts on the character of simple excitement, bland diluents are all that is necessary, and perhaps a dose of opium; for the patient may sink from the exhaustion produced by vomiting and purging if you do not sustain him by opium and cordials. In this way I have seen individuals rescued from the very jaws of death.

3. When cholera morbus is combined with symptoms of inflammation, bleeding is necessary: general, if the female be fully developed, and the inflammation acute; local, if the inflammation be sub-acute. And after that small doses of calomel and opium should be given. Remember that after inflammation great exhaustion is likely to come on; and then opium, if the tongue be moist, will be found very beneficial. Endeavour to guard against this collapse, which sometimes sets in very suddenly and very severely, and requires very prompt treatment.

4. When cholera puts on the congesto-inflammatory character, the patient is very cold in the first instance. Apply the hot-air bath, and give three grains of calomel with one grain of opium every six hours, and tepid drinks to keep up the perspiration.

In all these cases of cholera morbus and dysentery make minute observations at the bed-side of the patient; think and observe for yourselves: and having obtained the desirable art of doing this you have gained the great secret of the base on which human knowledge has its foundation.

Systematic writers say that cholera morbus consists of a vomiting and purging of bilious matter. This is the case sometimes, but not always. Mere bilious vomiting and purging without disorder in the circulation I call simple excitive fever.

TREATMENT OF SERO-GASTRITIS, SERO-ENTERITIS, AND PERITONITIS.

1. The first and main remedy is blood-letting, carried to approaching syncope or to the complete removal of the pain.

2. As long as the tongue continues moist, opium, with blood-letting, may be considered as a sovereign remedy: it is in these cases more successful than any other plan that has ever been adopted.

As soon as the patient recovers from the syncope induced by the blood-letting, give him, if an adult, from three to five—not less than three—grains of opium; or from eighty to a hundred drops of tincture

of opium with very little or without any water. The patient should be kept quite quiet, so that, if possible, sleep may be induced.

If one blood-letting remove the pain so much the better, because you save the patient's strength by avoiding further depletion.

If on a second visit, in four hours, the pain have returned, the abstraction of blood should be repeated, and carried into effect in the same decided way; and you may give two grains of opium, combined with calomel, after recovery from the faintness. In two hours more, if the inflammation be not removed, bleed the patient again, and give a grain and half or two grains of opium, with calomel.

In gastritis, if the stomach be very irritable, a suppository of opium may be used, or a hundred drops of tincture of opium with a very small quantity of water may be injected into the rectum.

It is constantly to be borne in mind that the patient's life is in the most imminent danger. If you lose time the patient will sink rapidly. Gastritis, with the exception of laryngitis, depresses the powers of life more than any other inflammation; and in this affection the patient is never safe so long as an irritable stomach remains: you must, therefore, bleed till the vomiting is removed.

Most frequently one blood-letting will suffice; sometimes a second, and occasionally a third, may be necessary, but rarely beyond that.

Sometimes cases of this kind are fatal from waiting too long. Some practitioners will bleed a patient to-day, and not bleed again before to-morrow, when I should abstract the same quantity of blood in four hours.

Opium seems to have nearly as much power as, or even more than, bleeding. If I were the subject of either of these affections, and were only allowed to have opium or blood-letting, I would choose opium, though I should prefer both together; and this combination I recommend to you.

Recollect that small doses of opium, in these cases, do no good, but harm: they operate as stimulants. Full doses act as direct sedatives: they produce copious perspiration, allay the pain, tranquilize the pulse, prevent hemorrhagic reaction, and generally procure profound sleep.

The opium tends to arrest the secretions of the liver; but when combined with calomel it has not that effect. And whenever, therefore, you repeat the opium, give calomel with it.

This plan answers better than any other: it will almost invariably remove the affection in the first eight or ten hours; and you should then treat the case very mildly. I have treated nearly three hundred cases with a success far greater than I have heard of from any other

plan; and I could defy all the physicians in this country to show any more successful practice. There is no success on record at all comparable to it. All those individuals who have given it a fair trial have added their testimony to its complete efficacy, which, therefore, does not rest upon my own assertion alone.

In inflammation of the serous membranes of the abdomen, since I have purged less, but have bled more and given opium, my success has been infinitely greater than it formerly was.

Remove the inflammation very nearly or altogether before you purge the patient. It may seem strange that I should give opium, but it is exceedingly useful: it does not constipate the bowels, but tends rather to open them; so that afterwards cold-drawn castor oil will empty them. Connecting together cause and effect, you will see the propriety of avoiding drastic aperients; for constipation is the effect of inflammation; and, to use the expressive language of Dr. Saunders, you must open the bowels by the lancet, and if that be not sufficient a full dose of opium will relieve them.

No greater error is committed than that of attempting to remove the constipation by drastic purgatives. You should subdue the inflammation before you give aperients, except by the rectum, such as a mild enema to unload the colon. The mildest aperients will then operate.

In some cases the colon is remarkably loaded with scybala. If there be a sense of distention of the abdomen, and of uneasiness about the rectum, and a frequent disposition to go to stool, the rectum should be examined, as it is often plugged up by scybala, which may be removed by the shank of a spoon.

The exhibition of a large injection will allay irritation of the stomach if it arise from overloaded intestines; and the quantity of fluid should never be less than a pint and a half, or a quart, for I believe it operates chiefly by the stimulus of distention. The injection will operate better if mixed with soft soap and muriate of soda.

Nausea frequently remains in gastritis after the removal of the inflammation and fever: the stomach should then be left at rest, or you may give an effervescing saline draught.

Many individuals think that a combination of opium, calomel and antimony, must be a more certain sudorific than opium alone; and I once was of that opinion. It sometimes answers better than calomel separately; but after bleeding and the warm bath, no sudorific is so certain as a full dose of opium.

When the inflammation has been rendered sub-acute, or chronic, fomentations are very beneficial.

In inflammations of the chest or belly, and especially of the bladder, warm applications are beneficial; but I am perfectly confident that a great many patients die in internal inflammation from exposure to cold and damp in leeching, and in the common careless way of using fomentations. If you can possibly spare time, see your directions about fomentations carried into effect; for they sometimes do a great deal of injury if indiscriminately applied.

Poultices made with chamomile flowers are very beneficial: sprinkle them with cold water, and then heat them, and put them in a bag. Bran, moistened with hot water, may be used in the same way. A linseed-meal poultice affords another method of applying warmth; but the following is the best plan:—a flannel should be put into hot water, and then placed within a cloth made like a round towel, with a stick at each end; the sticks are to be turned in contrary directions to wring it out perfectly dry. In this way the flannel retains the heat, and prevents any chill of the surface to which it is applied. A napkin should be placed over it.

I seldom employ blisters in acute inflammation; for by their use you lose a valuable indication of the condition of the parts, and the best test of the inflammation, namely, the pain on pressure; and you are then obliged to trust to the patient's account of his feelings, which may be some guide, but not a certain one. Leeches are more effectual than blisters, and may be applied when the pain is nearly subdued.

Inflammation of the stomach, intestines, liver, or peritoneum, but especially of the peritoneum, sometimes puts on a chronic character, and then you will find blisters of service. But though I may, like any other teacher of medicine, stand here and lay down general principles for the treatment of various affections; yet the only place for lecturing with complete effect is the bed-side of the sick. It is necessary, in order to reap the full benefit from oral instruction, that you should yourselves observe the symptoms during life, that you should note the effects of remedies, and that you should assist in the dissection of bodies after death for the purpose of seeing the morbid conditions on which the symptoms during life depended. The mode of conducting medical examinations in this country is very deficient, inasmuch as it is not sufficiently practical. Our continental brethren are fully aware of the importance of a practical education; and they are careful to make the attainments of students as valuable as possible by lecturing at the bed-side of the patients. Mere verbal examinations are of no use, especially carried on in Latin as they absurdly are in some colleges. By such means they may confuse an individual, or cavil about the mere meaning

of words; but, for the legitimate purposes of such examinations, those on surgery, and especially those on medicine, should be conducted at the bed-side of the patient, and those on pharmacy should be made in the shop.

Strangulated hernia often puts on all the symptoms of enteritis; therefore, in these cases, invariably examine the groin. Never be satisfied by a female telling you that she has no swelling there; for women will not tell the truth upon this subject, if by a falsehood they can avoid such a wound to their feelings of modesty as might occur from an examination. Always, then, ascertain if there be any inguinal tumour, and be not prevented by any false delicacy when the life of a fellow creature is in danger. If you find a strangulated hernia, it will be your next object to consider the propriety of an operation.

In some instances, when all the signs of abdominal inflammation have disappeared, the pulse continues quicker and the skin hotter than natural. So long as this state exists the patient should be kept in bed, the diet should be spare, the bowels should be opened daily, an opiate should be administered at bed-time, and the temperature of the apartment should be properly regulated. If this plan should fail, digitalis, in small doses, repeatedly and cautiously given until the pulse is reduced, is a useful auxiliary.

TREATMENT OF HEPATITIS.

1. The main remedy in the first instance is blood-letting, unless it be very far advanced.

If the inflammation be acute, decided bleeding is necessary, and should be carried to approaching syncope.

2. In all hepatic affections be careful of the exhibition of opium.

If there be great pain in the liver, in acute hepatitis, and you have bled the patient freely, you may often give a full opiate with a large or a moderate dose of calomel with great advantage. It prevents hemorrhagic reaction; and afterwards local bleeding, and calomel, followed by saline purgatives with which colchicum may advantageously be joined, and lastly blisters will remove the affection. Purgatives are exceedingly beneficial; and here a combination of calomel, rhubarb, and jalap is best, followed by saline purgatives twice a day, and by calomel which it is best to give twice or three times a day.

As long as there is pain on pressure in the region of the liver, so long you have distinct evidence of inflammation, and bleeding must be repeated; but the opium must not be repeated above twice, as it tends to lock up the secretions of the liver.

Immediately afterwards give calomel; and three grains every six

hours will be abundantly sufficient if you premise blood-letting. A very low diet should be allowed.

There are some exceptions to this plan.

1. When the inflammation is sub-acute, if the pain be not severe, and the other symptoms not pressing, moderate blood-letting will be sufficient.

2. In old persons especially, and in drunkards, be very careful about blood-letting. Recollect that you have almost a specific for this affection in mercury. Give calomel in the first instance, and push it on to salivation.

Some physicians say, "We will first remove the inflammation by abstracting blood, and then we will give calomel;" but if you wait till you have subdued the inflammation, there is no necessity for the exhibition of calomel, for calomel is given with the view of curing the inflammation: by it you imitate a natural process, by which a spontaneous cure sometimes occurs; you produce an increased secretion from the part.

Those drunkards who live, like certain birds, entirely by suction, bear blood-letting very badly.

On the contrary, those drunkards whose appetites are very great, and who eat large quantities of meat, bear blood-letting very well. They are often sustained remarkably well by opium, which may be given in small doses with tolerable doses of calomel.

Blisters have considerable influence, both in acute and sub-acute hepatitis. When it is chronic, rest and aperient medicines will often cure it; if not, affect the mouth by mercury.

When abscess forms and points externally, it should be opened with a lancet. When it opens internally the case is mostly fatal.

TREATMENT OF NEPHRITIS.

1. Bleeding must be adopted in a decided way if the inflammation be acute.

Sometimes it happens that blood-letting carried to approaching syncope will not relieve nephritis; and this is always a very unpleasant and unfavourable circumstance.

The late Mr. Edward Grainger had acute inflammation first of one and then of the other kidney. It was not relieved in the usual way by bleeding; and as calomel relaxed him very much, I prescribed it for him. In this way there remained only a slight trace of the inflammation; of which, however, he died, from his great anxiety to return to his duties.

When the kidney is inflamed acutely it frequently puts on in its progress the sub-acute character; and then cupping or leeching the back will very often remove it. But in acute nephritis or cystitis never use cupping over the part, for it always makes the patient worse. I believe it is very injurious to cup over a soft part, when the organs within are the seat of acute inflammation.

2. The bleeding should be followed by a full dose of opium with a moderate dose of calomel; and these measures will frequently cut the inflammation short. If, however, the inflammation return, you should repeat the bleeding, and follow it by opium and calomel as before. Afterwards local bleeding may be used if necessary.

3. The relaxation of calomel sometimes is exceedingly beneficial in nephritis, as well as in inflammation seated in other parts.

4. You should use the very mildest aperients; and castor oil is one of the best.

Avoid the exhibition of salts in large doses, which generally tend to aggravate the inflammation. I never give more than a drachm of any aperient salt in these cases.

5. If there be obscure pain in the back, use a tepid bath, and let it be followed up by a dose of Dover's powder. Never desist until the pain is entirely removed; and never suffer sub-acute inflammation to remain long, for it has a tendency to disorganize the kidney.

6. Blisters are exceedingly beneficial when the inflammation is nearly gone.

When you apply a blister in nephritis, you should always interpose a piece of silk-paper, or gauze, between the plaster and the skin to prevent the absorption of the cantharides; and it should be removed in ten or twelve hours at most. The French blistering plaster is far preferable to ours.

TREATMENT OF CYSTITIS.

The treatment of cystitis is the same as that of nephritis.

1. Most benefit is to be expected from local blood-letting, if the mucous membrane be inflamed, but most from general blood-letting if the serous membrane be the seat of inflammation. If there be sub-acute or chronic muco-cystitis, I find most benefit from leeches above the pubes; they are of considerable service as palliatives.

2. Opium in full doses after general blood-letting is equally beneficial in sero-cystitis as when other serous membranes are inflamed. It has less effect upon muco-cystitis. It may in these cases be used in the form of suppositories or glysters, especially if the stomach be very irri-

table. Eighty to a hundred drops of tincture of opium may be used as an anodyne injection, taking care that the quantity of water be small, so as not to distend the rectum too much.

3. The mildest aperients are proper to unload the colon.

Sometimes calomel operates very much on the intestines, irritates them exceedingly, and aggravates the inflammation. All purgatives that act on the rectum, and large doses of salts, should be avoided. Castor oil answers best.

4. Very great relief will be obtained from the use of the tepid bath.

Warm fomentations give great temporary relief; but they are merely secondary means, and only a secondary importance should, therefore, be attached to them.

5. If the bladder be distended be sure to draw off the water frequently; or, by leaving a catheter in the bladder, allow it to run off as fast as it is secreted; in order to prevent a painful distention of the bladder. Retention of urine is sometimes remedied by throwing up an injection by the rectum.

6. The diet in all these cases should be very bland.

The success of the practice of physic, then, obviously depends more on the combination of measures than on any one singly. Chronic inflammation is very apt to arise out of, and to remain after, acute or sub-acute muco-cystitis is subdued; generally from the neglect of the practitioner, but sometimes from the urgency of the disease; and this is very likely to occur if the diet be not regulated with great strictness. You should, therefore, watch the patient, and manage the case very carefully. Many cases of acute and sub-acute, are converted into chronic, inflammation by some error in the diet or regiminal management, which will both occasion and prolong the chronic disease. Self-denial is very difficult to practice; but if not exercised in these cases the most unpleasant effects will probably be the consequence. It is of great importance to have the health completely restored before the patient returns to his previous habits of diet, exercise, and business. When the urinary organs have once been inflamed, relapses are very liable to occur.

When a white sediment occurs in the urine, dilute muriatic acid will be very serviceable; and when a red sediment, the alkalies will be useful.

HEMATURIA.

Bloody urine not unfrequently attends inflammation of the kidneys and bladder, either when small calculi exist in them, or when there are no calculi, especially if the mucous coat of the bladder be inflamed. The

presence of blood in the urine may be ascertained; for sometimes distinct clots may be observed. Sometimes it is diffused through the urine; and then if the urine be boiled, a coagulum will be obtained; or a cloth immersed in it will be reddened.

SUPPRESSION OF URINE

sometimes depends upon inflammation of the kidney, and then it is relieved by subduing the inflammation. Sometimes it depends upon an affection of the head, and then it can only be relieved by removing the cause.

In a case in which calculi plugged up the ureters, the patient became threatened with an attack of apoplexy. This was removed by copious bleeding, and during the relaxation produced by the abstraction of blood the calculi passed into the bladder and he recovered.

In one case it was produced by arsenic.

LECTURE XXIX.

COMMON INFLAMMATORY FEVER.

PROGNOSIS OF INTERNAL INFLAMMATION.

Nothing requires more minute observation than to give a prognosis of general accuracy; and the importance of the subject I need scarcely point out to you. But a few general remarks upon the subject may be of service, before I advert to the prognosis in those affections, of which I have already described to you the symptoms and treatment.

If you be careless in the delivery of your prognosis you will never be successful. I never met with any individual who was careless on this point who maintained the public confidence for any length of time.

There are four points to be considered in delivering your opinion as to the probable issue of any case. It is very necessary that you should show—

1. A deep interest in the welfare of the sick.

Your own personal interest should be a mere secondary consideration; and you should consider your patient's welfare as in your estimation paramount to every other consideration. This can only be shown by the most devoted attention, of which the patient must be rendered conscious by its simplicity and its sincerity. Celsus long ago observed that one medical man could not properly attend many patients at one time; and I believe that his remark is perfectly just.

Seeing, then, the necessity of cautious investigation in order to precision of opinion, when you are called to a patient always make your first visit a long one; for if you be not minute in your inquiries then, you will form perhaps an incorrect opinion, and you will seldom be undeceived in your subsequent visits. You should review at every future visit the grounds of your opinion, which will also enable you to state whether the patient is better or worse.

2. A proper sympathy with the feelings of the friends,—and especially if the case be serious; for you should ask yourself "What are involved in the event of this case?"—The life of the patient and the happiness of the patient's friends. It becomes you, therefore, in all cases of a serious character to show the most sincere attention to and

sympathy with the feelings of the friends, more particularly about a dying bed or if the case be one which is at all likely to terminate fatally. Then you should redouble your attentions, and recollect that the death of the patient involves not only the parting from his friends; but it is the desolate hearth for years to come; the absence of that form which never can be seen again; of the sound of that voice, of the echo of that thread, which never can be heard again; it is the dull and melancholy chasm which must remain through the rest of this life. Nothing is so repulsive as the slightest display of any thing like inhumanity or the want of sympathy, under these circumstances. It is well to study human nature so as to enable you to suppress your own feelings and preserve your temper, unless when your honour is affected, and then you may display all the energies of your mind.

3. Due caution with regard to your own reputation.

You must have a proper regard to your own character, recollecting that your opinions completely involve your reputation. I recommend you never to entirely give up a patient for lost; for what Bacon called "the accidents and issues of disease" are extremely uncertain. You should also take into account the uncertainty of all human opinions. The most enlightened men now and then commit errors; and if you carelessly say that any case is entirely hopeless, the friends will immediately call in another practitioner, and conclude you must be mistaken entirely if the patient recover.

Miss Seward, in her Memoirs of Dr. Darwin, mentions an anecdote, which will illustrate this subject:—When Darwin went to Lichfield he was a very young man. An old physician having a patient very ill gave him up entirely. The friends, however, sent for Darwin, and the patient ultimately recovered. The consequence of this was that Darwin soon "eclipsed the hopes of an ingenious rival, who resigned the contest; nor afterwards did any other competitor bring his lamp into that sphere in which so bright a luminary shone."

And I have seen a similar instance since my residence in London. One morning I was sent for to see a gentleman who was labouring under fever, with some degree of collapse. I made an engagement with his physician to see him at a certain time, but he did not keep his appointment, and I waited half an hour longer than I should have done. I went up and saw the patient as his physician did not arrive, and, as a point of delicacy, I stated my opinion in writing. When the physician saw it he flew into a great passion, and left the house, saying, "You may do what you please, and the patient will die." The patient, however, recovered. This shows the absurdity of abandoning all hope.

One medical man should pay that respect to another which he himself expects to receive. Besides, he should remember the value of a medical man's time. Time is his estate; and, therefore, I recommend you always to be very punctual in your engagements.

Independent of meeting other medical men in consultations, you should, when you make an engagement, endeavour to avoid being after the time. Remember that your patient may be anxiously awaiting your arrival, and his friends may be expecting you.

And, above all things, be punctual for your word's sake; for if you do not speak the truth and perform your promise in trifling matters, your patients and their friends will be apt to suspect your veracity on more important subjects.

Always state your opinions in that oracular manner which never excludes hope. Say, for example, that your fears greatly preponderate over your hopes, though the patient may possibly recover. Never exclude hope entirely; for sometimes it may happen that the patient will recover, and such a circumstance may destroy your reputation. Another point of great importance is—

4. The communication of confidence in your judgment.

The man who mistrusts himself can never possess the confidence of the public. It is surprising how much the manners of different individuals tend to communicate confidence in their opinions; and, indeed, that is an acquisition which it is very important to obtain. If any man want confidence of manner it is very soon perceived. The public, too, will very soon discover it, if his opinions be not clearly given, and especially if he be an alarmist. If he express any doubt about the issue of the case, or about the nature of the case, another practitioner will be called in, most probably to the injury of his reputation.

Nothing betrays greater ignorance than to be relying constantly on consultations. If a general practitioner be constantly calling in a physician, he never can expect to gain the confidence of the public; for he loses all the occasions of communicating confidence in his own judgment by appealing incessantly to the opinions of others.

You should consider three things with respect to consultations.

In the *first* place, the medical man should have the most correct acquaintance with himself. If the medical man feel that he understands the case clearly, and if he feel certain that he can bring modern medicine to bear upon it, then it is far best to take the risk, both for his own reputation and for the welfare of the patient.

Nothing has shocked me more than to see three or four or half a dozen men meeting together in consultation upon any case; for, gene-

rally speaking, what is done best is that which is done by one or at the most by two individuals.

In the *second* place, if you have the slightest doubt in your own mind, either of the nature of the case or of the proper treatment of it, it is your duty to mention it to the patient's friends. You may say that there are one or two points about which you would wish to have some conversation with a second person. Always fix upon a person of talent and integrity, for the sake of your patient and for the sake of your own character; for there are some men who are constantly striving to raise themselves by depressing others.

In the *third* place, you should request a consultation (especially if you be a young practitioner) if you see the patient is going the wrong way. Under these circumstances the friends will wish to see some other medical man; and it will be some consolation to them that the patient, before he died, was seen by some practitioner of established reputation and character. If, therefore, you think it at all likely that the case will terminate fatally, always request a consultation, as a point of safety with regard to your own character, and of consolation to the friends.

A great deal may be done by careful observation with regard to the prognosis or probable termination of diseases. By attentive observation we acquire a knowledge of the cause and constitution of natural phenomena as displayed in the material world; and if we notice the particulars of many cases minutely, by close observation of the symptoms of diseases and of the effects of remedies, we arrive at certain general results as to their terminations, and are enabled under similar circumstances to predict with very great certainty how the case will end. The public deem this prophetic power almost intuitive; but it is only to be acquired by most laborious investigation; and it should be used with caution, lest you excite false hopes or groundless fears. To give a correct prognosis a medical man should possess an acquaintance with the principles of pathology, which he must bring to bear on the particular case, having examined minutely all the circumstances of it. So, too, he must ascertain what have been, and probably will be, the effects of remedies in that instance.

Two great errors are committed in the delivery of prognosis.

One set of men, who are generally weak in intellect, are great alarmists. And some well-informed men, who dislike the profession and are ignorant of it commit the same error. They are like the boy in the fable, continually crying "wolf," till no one heeds what they say.

Not one person in ten thousand can, without injury, be told that he will probably die. Be candid, however, to the friends.

Be not too desponding, or you will never maintain the confidence of the public ; but you will in fact be superseded by others less timid and less desponding than yourself.

Another error is being too sanguine ; and this extreme will often lead you into great difficulties. I know a physician who, after great experience, was excessively sanguine, so that he was constantly getting into scrapes, and was at length ousted by a young man.

Old women are generally excessively inquisitive on the subject of the prognosis, and frequently tease the practitioner on leaving the house. They take no interest in the welfare of the patient ; and, without caring a straw for his life but from sheer curiosity to know the event, they pester the medical man for his opinion. They look upon him as a fortune-teller, and expect him to gratify their idle inquiries. The best way to manage these persons is to speak oracularly, and to treat them with civility, for they often have great influence. A slanderous tongue frequently does a medical man a great deal of mischief. Although, therefore, I would not have you reverence any thing solely because it is old, yet I recommend you to venerate the old ladies.

PROGNOSIS OF PHRENITIS.

In the first stage there is generally very considerable hope of recovery if the patient be rightly managed, and if there be no traces of organic disease. The effect of remedies is generally remarkably powerful in this stage.

As long as the pain and fever remain the prognosis should be cautious, but if they both decline, the patient will generally recover well.

If the vomiting be urgent and the bowels be remarkably constipated in the first stage the case is always serious.

In the second stage, as long as you can rouse the patient, by loud speaking or shaking, into a sensible state, so long the prognosis is not hopeless. But when utter insensibility occurs the case is generally, though not always, hopeless.

With respect to delirium, consider whether it be constant or occasional ; whether it occur in the first or in the second stage. If constant, night after night and day after day, it is always extremely alarming ; if only occasional, it is seldom alarming if rightly managed. It is more alarming in a confirmed drunkard than in a person of sober habits. Very few drunkards recover from inflammation of brain compared with those of temperate habits.

As long as ever and anon a pause in the inspiration is followed by a deep-drawn sigh, the prognosis should be cautious. When the breath-

ing is embarrassed in all affections of the head the prognosis should be very guarded.

Towards the commencement of the stage of torpor, the pulse, from being one hundred and thirty in the first stage, in adults, falls to one hundred and twenty, one hundred and fifteen, one hundred and ten, and then, perhaps, to one hundred; and if you were guided by this you might expect recovery; but when the pulse becomes slower and the brain is more and more oppressed, it is generally a sign of effusion into the ventricles and between the membranes of the brain. The pulse generally becomes quick again before death. The quickest pulse I have felt was in this stage of phrenitis: it could not be numbered. I can count a pulse of one hundred and eighty. In one form of inflammation of the brain where the substance is inflamed, the pulse at first is very little quicker than natural and the heat scarcely above the natural standard. In these cases the prognosis generally is a very serious one.

So long as the head continues hotter than natural you may be certain that inflammation exists in the brain; and as long as it exists, especially with throbbing about the carotid arteries, be cautious in the prognosis.

If the patient be preternaturally quiet or preternaturally restless, from turgescence, in the one case of the brain, in the other of the membranes, be guarded in the prognosis. Far more patients, however, recover who are preternaturally quiet than who are preternaturally restless. The quietude frequently arises from a coexistent bronchitis. The patient lies as if asleep, but you can rouse him and he gives precise answers while there is no danger.

If the bladder have not the power of expelling its contents the case is generally very serious.

If the pupil be preternaturally contracted throughout inflammation of the brain; so, also, if it be extremely dilated, the prognosis is unfavourable.

If in the advanced stage a swinging motion of one arm or leg occur, and if one arm or leg be moved more than the other, it is an unfavourable circumstance.

A squint is generally, but not always, mortal, a vacant stare is mostly a mortal sign.

Tremor of the hands hardly ever occurs till the last stage. I have known the patient recover after excessive tremor; but when it occurs be very cautious in your prognosis.

A patient will lie insensible, blind, deaf, and lost to all surrounding

objects; yet suddenly he sees, hears, recovers his intellectual faculties so far as to inquire about his friends, and then suddenly he sinks and dies. Nurses call this "lighting before death."

You frequently find very great mischief in these cases.

In all cases of phrenitis trace the history backwards, to ascertain if there were any organic disease previously; because it very often happens that when acute inflammation suddenly arises, it is only the winding-up of a chronic disease existing long before. This is most frequently the case with persons advanced in life; and, upon examination after death, organic disease is found.

In many children inflammation of the brain is preceded by bronchitis or sub-acute muco-enteritis.

In bronchitis the child becomes more and more heavy. When quite insensible and torpid the prognosis is unfavourable, especially if the veins on the forehead be much distended.

Inflammation of the brain in muco-enteritis sometimes comes on slowly, sometimes rapidly.

Ulceration of the mucous membrane of the small intestines is very frequently the cause of fatal phrenitis in young children.

PROGNOSIS OF THE BRAIN FEVER OF DRUNKENNESS.

If the pulse be very small and very rapid give the prognosis guardedly, especially if the patient be a confirmed drunkard.

So, also, you should give a guarded prognosis if the skin be excessively damp and relaxed, and still more if the breathing be weak and hurried.

If the pupil be contracted with strabismus, or if it be excessively dilated, be very much on your guard to sustain the patient's strength; for if he then be kept too low, or be confined and struggle, very frequently he dies in convulsions. You may frequently prevent convulsions, or remove them, by wine: they are often announced by dilated pupils, very feeble respiration, a pallid face, and a very small pulse.

PROGNOSIS OF INFLAMMATION OF THE SPINAL CORD.

If there be violent pain or numbness in the extremities, with loss of power; if the bladder have lost the power of expelling its contents; if there be dribbling of the urine; if the breathing be weak, the pulse small and rapid; and especially if there be a tendency to convulsions, the case is very serious.

PROGNOSIS OF CYNANCHE TONSILLARIS.

If it occur singly, the tonsil and adjacent mucous membrane alone being inflamed, the prognosis is generally very favourable.

When it happens that first one and then the other tonsil is inflamed and suppurates, even in strong subjects the irritation is sometimes so great as very much to affect some other organ, especially the brain. And if not, yet the strength may be excessively broken up, and if it occur in cold weather, consumption, or some other tubercular disease, may supervene if the patient be not cautious after the attack.

If ulceration take place in cynanche tonsillaris when the individual is weak, the inflammation is very apt to invade the larynx, especially in young children. The continuity of mucous membrane is a very important subject both physiologically and pathologically. You have an example of this in simple excitement or in inflammation of the mucous membrane of the ilium; the effect of which in children is itching of the nostrils, so that the child is incessantly scratching or picking its nose. Sometimes it extends over the whole skin, and the child picks pieces out of its flesh.

PROGNOSIS OF CYNANCHE LARYNGEA.

Be guided by the continuance or the abatement of the pain, and by the mode in which the patient breathes.

He breathes as though he were sucking the wind up, with a dry sort of sound, as long as the inflammation continues.

In the worst cases the voice is suppressed, or is a mere whisper, or a hoarseness.

While the breathing continues to get quicker and more laborious, and while the pulse increases in frequency, be extremely guarded in your prognosis; for the inflammation then is advancing.

If the inflammation be about the epiglottis and the rima glottidis the voice is becoming more distinct as the complaint abates; and there is generally a very prominent, enlarged, and alarmed expression of the eye as long as laryngitis goes on.

When the respiration has become more and more laborious; when the prostration of strength is evidently increasing; when the pulse is quicker and quicker, and the cough continues suffocating, with a whisper or hoarseness of voice; and when all ordinary remedies fail; I would in every such case recommend an operation.

Sometimes the patient dies very suddenly in these cases, apparently of a spasm.

The great objection in general to the operation is the coexistence of a bronchial affection with that of the larynx.

In one case it was successful though a bronchial affection did exist.

PROGNOSIS OF CYNANCHE TRACHEALIS.

Be guided chiefly by the sound. As long as the crowing, barking, croaking raven sound exists with a hot skin, a quick pulse, and difficulty of breathing, so long be guarded in your opinion as to the result.

The abatement of these symptoms are all favourable signs.

PROGNOSIS OF BRONCHITIS.

Almost all patients do well who have a cough so deep, so strong, and so sweeping as to clear out the bronchial passages from the accumulation there, especially if too much be not done by the physician. The cough is the only means of expelling the mucus, and the patient's safety depends on the cough. If the quantity of mucus secreted exceed the quantity expectorated, suffocation will be the result; and the danger is in the direct ratio of the secretion and expectoration. I believe that large opiates kill many patients in bronchitis.

The expectoration in bronchitis becomes more and more transparent as the patient verges towards recovery, until at last it becomes as clear as water. In bad cases the expectoration is generally opaque.

If the respiration become less and less laborious it is very favourable.

If the lips be purple and leaden, the nearer they approach to the natural colour the more favourable is the prognosis.

The face is of three colours in bronchitis.

1. In pale infants there is a leaden pallidity while bronchitis continues. When it disappears it is all the more favourable; and so in adults.

2. In many adults the cheek has a purple or plum colour, and the deeper it is the more dangerous is the case.

3. In some swarthy individuals there is a remarkable tawny appearance, which is generally an unfavourable circumstance while it continues.

If the pulse grows quicker and quicker the prognosis is unfavourable, and especially if the patient lose strength.

PROGNOSIS IN PNEUMONIA AND PLEURITIS.

If the pain be removed by remedies it is favourable. If the cough, if the catch, if the difficulty of breathing, be removed, it is favourable.

If the cough continue; if the catch continue; and the respiration

become more laborious and more quick, all these are unfavourable signs.

If the pulse become quicker and quicker, if the fever increase, or the anxiety of countenance increase, it is unfavourable.

If the colour of the face or lip become more purple or leaden, it is unfavourable; and the contrary are favourable signs.

Be guided by Laennec's instrument too, taking care neither to expose the chest to cold air nor to fatigue the patient.

In the third stage of pneumonia shivering sometimes occurs, and announces the formation of pus or infiltration into the cellular connecting membrane of the lungs in some cases, but not in all. Some patients spit very copiously of pus without injury; nevertheless, be very much upon your guard.

In all cases of cough with fever never allow the patient to go about till the cough has entirely left him; for, in chronic inflammation of the lungs the pleura or the bronchial lining, if the patient go about, a serious and permanent chronic disease is often established. Many patients lose their lives from chronic inflammation of the lungs supervening on pleuro-pulmonitis.

PROGNOSIS OF PERICARDITIS.

If the pain be removed, the prognosis is favourable; if it continue, it is unfavourable.

If motion create pain in the side or a tendency to syncope, it is unfavourable; if not, it is favourable.

If the pulse be slow and of standard frequency, if the fever lessen, and the breathing cease to be anxious, and the patient cease to have an anxious expression of countenance, it is favourable.

PROGNOSIS OF MUCO-GASTRITIS.

If vomiting be absent, the prognosis is generally favourable; if present throughout, it is very unfavourable.

If pain be present, it is unfavourable; if absent, favourable, especially in acute inflammation; but sub-acute inflammation frequently goes on in mucous membranes without pain. Mucous surfaces generally are not very sensible.

If the pulse become quicker and quicker, and the tongue vividly red at the tip; the breathing disturbed, and the strength more prostrate; if the heat of the epigastrium become higher and higher; be guarded in your prognosis.

PROGNOSIS OF MUCO-ENTERITIS OF THE SMALL INTESTINES.

If pain be absent, the prognosis is favourable, if all the other symptoms be favourable.

If the tongue be red at the tip and round the edges, or down the centre, or over the whole surface; if the heat of the belly continue pungent; if the stools be bloody; if the pulse become quicker and quicker; if the skin continue hot, and the face have a sunk expression; you may be certain then that the patient is going the wrong way.

PROGNOSIS OF MUCO-ENTERITIS OF THE LARGE INTESTINES.

If it assume the form of—

DYSENTERY,

so long as the griping pain and desire to go to stool continue, with straining and blood, the case is dangerous.

The absence of tormina, tenesmus, straining, and blood, are all favourable circumstances.

The discovery of any degree of pus in the stools is a very alarming circumstance. I have seen pus, after death, both in the small and large intestines in these cases, the ulceration having extended upwards as far as the ilium.

It sometimes winds up by exciting peritoneal inflammation: the pain is acute, and the pulse becomes very rapid, and the breathing extremely hurried; the belly becomes more hard; the tongue either very remarkably red at the tip and edges, or particularly smooth and not very red; the countenance is very anxious, with very often a degree of reverie; and the patient sinks and dies rapidly.

PROGNOSIS OF SERO-GASTRITIS.

If the vomiting cease, it is favourable, with other favourable circumstances; if it continue, it is the most unfavourable circumstance you can have.

If the pulse become quicker and quicker, the prognosis is unfavourable; if slower, it is favourable.

If the breathing become more rapid, it is unfavourable; if slower and slower, it is favourable.

If the skin become cooler and of a natural warmth, it is favourable. If the surface be cold, provided the pulse become small and quick and the breathing hurried; if the expression of the face become more and more anxious and sunk, and the strength fail; it is very serious.

In sub-acute inflammation pain may be absent, with all the other signs unfavourable.

PROGNOSIS OF SERO-ENTERITIS.

Be guided by the vomiting: the presence of which is unfavourable, and its absence favourable; by the pulse: which, if the prognosis be favourable, is slower; if unfavourable, quicker; and by the breathing: if it be quicker, it is unfavourable; if slower, favourable.

So, also, if the skin continue hotter in the first stage, and clay-cold in the last, it is unfavourable.

Constipation throughout the progress of the case, especially with extreme distension of the belly, is very unfavourable. The distension arises from a large generation of flatus in the intestines.

In all abdominal inflammations, if the belly feel hard, like a board, it is a very suspicious circumstance.

If the patient lie on his back, with his legs drawn up, and a very rapid pulse, you may conclude that there is some very destructive inflammation.

In abdominal inflammation there are two stages;—a stage of excitement, and a stage of collapse.

In the stage of collapse it is invariably mortal.

The stage of excitement, generally, is much more rapid in serous inflammation than in mucous inflammation, except in sudden inflammation of the mucous membrane of the stomach and intestines. But inflammation of the mucous membrane is generally sub-acute, and goes on two or three weeks.

In the stage of excitement there is pain if the inflammation be going on; in the stage of collapse it is generally absent.

In the stage of excitement the pulse is quicker than natural, but generally has considerable power and is stronger than natural, especially if serous inflammation exist; in the state of collapse it is quick, but small and thready.

In the stage of excitement the heat is higher than natural in all parts of the body; in the stage of collapse the skin becomes damp and clay-cold, first in the extremities, and then in the trunk.

In the first stage the breathing is quicker than natural; in the second stage it is more more and more rapid, and more and more weak.

In the stage of collapse the belly is more distended in serous, more contracted in mucous, inflammation.

In the stage of excitement the expression is anxious; in that of collapse it is sunk, and there is a hollowness about the eyes.

In many of these cases you may perceive a peculiar odour about the patient several hours before death.

I saw a patient with Mr. Johnson, of Rotherhithe: when I first entered the room and stood at the bed-side, I smelt this faint, earthy, sickly odour, and I became so sick that I was obliged to sit down. I have never known a patient recover from this. It is so sickening to me that the impression remains three or four hours. When you perceive it be exceedingly upon your guard.

Be exceedingly cautious with respect to the pain.

I once attended a patient with a very eminent physician, who is now dead, and for whose opinion I had the highest respect. He was deceived because there was no pain. He examined the patient and coming down stairs told me that it was evident there was danger, but he thought not immediate danger. He asked my opinion, and I told him I was sure the patient would live at most but very few hours. He returned to the patient, and having examined him more carefully, told me that what I had predicted was quite correct, for the patient was certainly dying.

This shows how necessary it is to pay great attention to the patient before you should venture to give an opinion as to the issue of a case; for a false opinion will tend very much to injure the medical man in the opinion of the patient's friends; and their influence may be extensive.

PROGNOSIS OF HEPATITIS.

Remember that chills frequently occur without suppuration; these ague-chills are followed by a hot stage. When suppuration takes place after acute or sub-acute inflammation, the cold shiverings are generally very distinct and complete.

So long as pain on pressure remains be on your guard; for chronic inflammation often remains.

If abscess of the liver form, the case is not necessarily fatal. Sometimes the pus is passed by stool by ulceration through the intestines. Sometimes the abscess breaks through the diaphragm, and the patient spits up pus and bile, but recovers. Sometimes the abscess points externally. I had such a case: an immense quantity of pus was discharged from a large tumour, and the patient became emaciated and hectic, but afterwards was as strong as ever again. Yet it very often is fatal.

PROGNOSIS OF NEPHRITIS.

If the pain and fever leave the patient, the prognosis is favourable, provided there be no pus in the urine.

Sometimes one kidney suppurates and opens externally, but more commonly the pus passes by the ureter.

PROGNOSIS OF CYSTITIS.

Be guided by the pain, and desire to make water, and slime or blood in the urine. If these be absent the prognosis is favourable. If they continue, and the fever continue, the case generally ends mortally.

Generally speaking, inflammation of the internal organs is more fatal in weak subjects than in strong subjects.

1. Because it runs a more rapid course in persons who are weak than in strong individuals.

2. Because in the mucous membranes it is more apt to run into ulceration.

3. Because the remedies we employ have a less effect locally, and a greater effect generally.

If common inflammatory fever occur early in the stage of congestion, we must not be so much alarmed as we should when it occurs very late in congestive fever, when the patient's strength is worn down; for then it is generally fatal.

If it arise in an early stage of simple fever it is not of so much consequence as when it arises in a later stage; for then it is very dangerous, as the strength is then subdued.

END OF VOL. I.